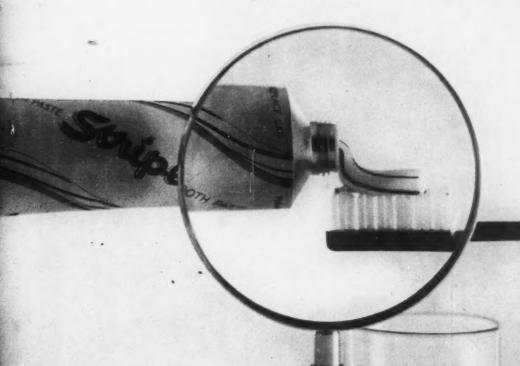
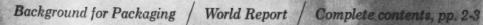
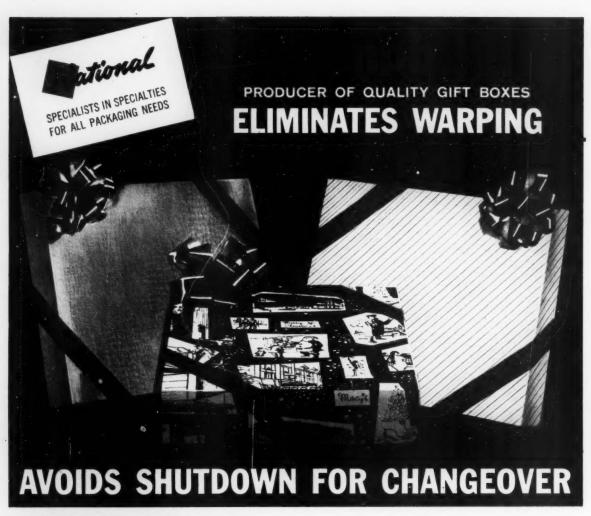
MODERN PACKAGING

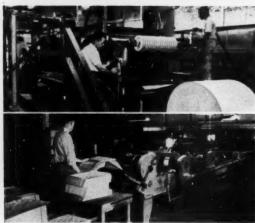


SUCCESS STORY:

Stripe Toothpaste









NATIONAL STARCH and CHEMICAL CORPORATION

Quality is quickly evident in RAPIDSET boxes made by Maryland Paper Box Co., Baltimore. These folding gift boxes have the beauty of top grade gift paper laminated to white boxboard stock. Specially formulated adhesives from National contribute much to the production and appearance of this fine quality line.

IN LAMINATING National's highly plasticized LAYFLAT adhesive prevents warping—even under extremes of humidity. It handles sensitive inks and papers. Provides high tack required by high speed direct roll feed laminator. For economy and efficiency LAYFLAT is shipped in tank trucks, pumped to a storage tank and fed directly in a completely closed system to the laminator.

IN CARTON FORMING A specially formulated, fast drying resin adhesive eliminates costly shutdowns for cleanup and change-over. Allows right angle machines to run at maximum speed on a wide variety of laminated gift papers and, in addition, gives an extra margin of safety in adhering inked or varnished surfaces.

Maryland Paper Box Co. has been enjoying these advantages since the inception of their gift box line. We'd be pleased to apply our skills to your requirements. No obligation of course. Just contact your nearest National office.

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It puts a new complexion on skin packaging



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GOOD YEAR

Vitafilm, a Polyvinyl chloride-T.M. The Goodyear Tire & Rubber Company, Ahron, Ohio

IN THIS ISSUE OF ODERN

FEBRUARY 1961 / VOLUME 34 / NO. 6

83 New day in hardware

The industry long considered most backward with regard to packaging is beginning to catch up with modern retailing needs. Hardware packagers are doing the job by adapting ideas from other industries, with the emphasis on improved product protection, the requirements of self-service merchandising and the techniques of multiple selling. This lesson can be applied by packagers in every product field. General interest.

88 The first free-piston aerosol



A free-piston
aluminum aerosol can
that permits true
solid-stream dispensing
of foods and nonfoods of varying
viscosities makes its
commercial debut as

the package for Brylcreem hair dressing. Using a dome-shaped polyethylene diaphragm piston, it is significant to the growth of aerosol packaging on three counts: (1) it prevents chemical interaction between product and propellant; (2) it prevents physical mixing of product and propellant, and (3) it permits almost complete dispensing of the product. Special interest: Moods, drugs, toiletries, cosmeties, waxes, polishes, household chemicals,

FRONT FEATURES

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Important new products from suppliers.

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We ask the readers: What ideas has your company developed for training new productionline or creative packaging personnel?

69 World Report

What's news in foreign packaging magazines.

81 Editorial Memo

"Built-in inconvenience."

90 Low-cost packaging line

To small companies offering a wide variety of products, versatility—rather than high speed—is the key to over-all packaging efficiency. Consider the case of Physicians Products Co., which packs 23 ethical-drug items in bottles of five different sizes and in sample containers, all on one low-cost quick-change line that combines mechanical and hand techniques. A production-method- article.

92 Gastight coffee carton

Gastight cartoning has been achieved in Sweden via a web-lined paperboard container for pre-ground coffee which is said to save 15% in packaging costs and to have shelf life equal to that of a metal key can. At 60-per-minute speed, a new automatic packaging machine sets up and fills the pre-lined carton, exhausting air and replacing it with carbon dioxide.

A production-methods article.

96 New speed for big bottles

Clorox is now running a versatile rotary vacuum filler for liquid bleach that goes a long way toward the goal of higher speeds and quicker change-over on large-bottle filling lines. The unit has boosted average output more than 25% during the run-in period, achieving 415-perminute speeds for pint bottles and 100-perminute for gallons. Change-over time is only 30 minutes. In addition, mechanical innovations reduce bottle breakage, permit faster handling of all types of liquids and prevent corrosion of delicate machine parts by locating them out of the reach of strong liquid solutions. A production-methods article.

98 Stripe toothpaste

A Success Story. In just three years, Lever Brothers' Stripe has surged from nowhere to fifth place in the crowded, ruggedly competitive dentifrice market. The secret of this truly outstanding Success Story is a unique packaging feature: a hollow neck plug that deposits five red stripes on the white toothpaste as it is squeezed past. But Lever isn't counting on mere novelty to keep sales up. The company is backing Stripe with a powerful marketing program. General interest.

MODERN PACKAGING, Executive and Editorial Offices, 575 Madison Ave., New York 22, N.Y. Phone PLaza 9-2710

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PAGKAGING

THE COMPLETE AUTHORITY OF PACKAGING

101 Tall story



Why change a successful package? Seeking greater point-of-purchase impact and broader distribution for cookies, Arnold Bakers abandons a traditional roll-top bag in favor of a carry carton that stands head and shoulders over competitors on retail shelves. Result: a 20% sales gain. The carton's rigidity

adds a dimension of protection that keeps cookies from crumbling in long-distance shipment. Special interest: sales, advertising, designers,

104 Trend to paper for seeds

More than 40 growers have turned to multiwall paper bags for the bulk shipment of seeds, replacing a variety of other packaging forms. The reason is simple. At a cost saving of as much as 50%, the multiwall does a top job of guarding against premature germination while warding off external chemical and physical attack. The siftproof, disposable bag also can be run at high speed on standard equipment.

110 Synchronous line for plastic bottles

At a cost less than that of a previous contract packager, Lambert-Hudnut is handling lightweight polyethylene squeeze bottles at up to 120 per minute. The operation is performed on a carefully planned synchronous line that controls feed velocity to eliminate tipping of the tricky containers. The line is quickly adaptable to a variety of special jobs. By Charles J. Rogers. A production-methods article.

116 Chain-store showmanship

What packaging imagination can do to stimulate impulse purchases of popular-priced products is illustrated in the experience of Glamour Jewelry Co. During the Christmas season, this variety chain adopted an economical transparent acetate tube with metalized decoration as a gift package for 59-cent jewelry items. Customer response was such that the company had to increase the quantity of its original order 20 times.

Special interest: Supermarket chains, housewares,

TECHNICAL & ENGINEERING

119 New strength in polystyrene

The huge potential for thin-wall polystyrene containers for frozen and refrigerated foods has been stalled by such factors as the lack of cold strength (in medium-impact materials) and high cost (for high-impact polystyrenes). But now comes a breakthrough that could be of major importance to food packagers. Union Carbide has developed a class of medium-impact polystyrenes that combine low cost with great strength, even at sub-zero temperatures. By J. R. Wilkinson.

121 The status of food aerosols

Current yearly production of food aerosols is only about 100 million units, a fraction of that for non-food pressure containers. The factors contributing to this lag are reviewed here, with a discussion of developments and technical considerations. The outlook: The '60s will see an accelerated growth of food aerosols as manufacturers assimilate new techniques, originate more imaginative food forms and overcome some of the problems involved in the reformulation of foods. By W. Earl Graham.

128 Questions & Answers

Solutions to readers' technical problems.

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Sell her more with multi-packs of AVISCO CELLOPHANE

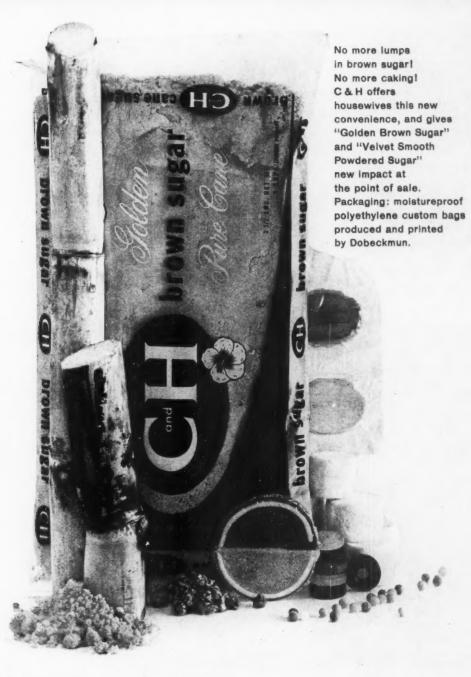
Manufacturers increase sales with multi-packs. So do retailers—and they have less handling; faster pricing, stocking and checkout. Consumers get shopping convenience and worth-while economy. Best packaging material for profit-building multi-packs? Cellophane! It offers pure transparency, maximum product protection, unmatched machine performance, and it prints beautifully. We offer a complete packaging service to assist you and demonstrate the benefits of Avisco cellophane in multi-packs. Contact us for an appointment with our representative or a selected cellophane converter.



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KEEP CAPS IN PLACE

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SMARTER PACKAGE

ASSURE PURITY





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3 OUT 5 BUY 5 Riegel

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Supplementary aid does away with awkward task of dumping cap cases into hopper 6' above floor.

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This is it! The polyethylene film specifically designed for bag packaging that gives you both clarity and toughness... Du Pont's exclusive new 2-in-1 polyethylene film.

Compare it with the clearest polyethylene bag films you can buy today. You'll find it's just as clear. Compare it with the tough polyethylene bag films. You'll find that only the hazy, highimpact polyethylene films are as rugged.

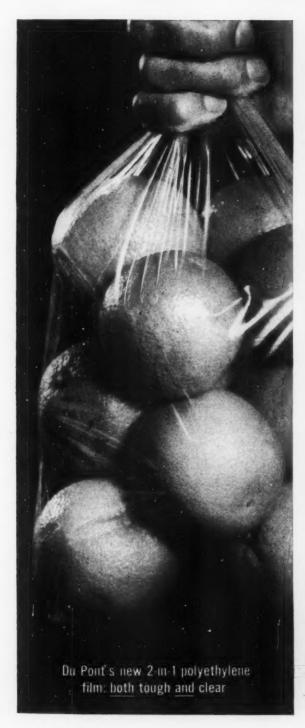
Where can you get it? Du Pont 2-in-1 polyethylene film is now available in printed roll stock and bags through Du Pont Authorized Converters . . . or plain roll stock from your Du Pont Representative. Call an Authorized Converter or Du Pont Representative for all the facts on this latest advance from Du Pont . . . leader in packaging film for 35 years. Du Pont Company, Film Dept., Wilmington 98, Del.

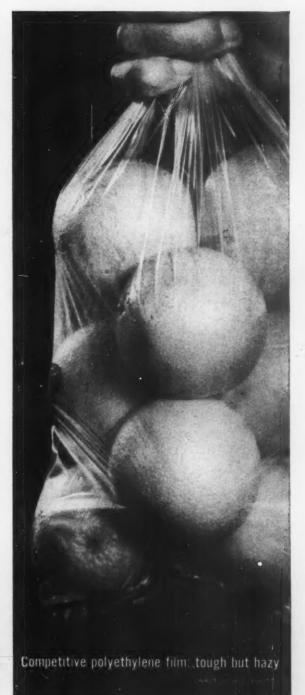


Better Things for Better Livi



PARE





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SWIFT'S ADHESIVES FOR PROFIT

In Packaging...

THE RIGHT ADHESIVE IS LIKE THE RIGHT PRODUCTION MANAGER

Maybe you can't compare apples and oranges, and most likely no one wants to be compared with an adhesive. But the *right* production man and the *right* adhesive can have an important effect on profits.

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A-59

The Quality Image



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REYNOLDS

ALUMINUM

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FMC Auger Filler versatility matches Cal Spray product diversity

California Spray Chemical Corporation, well known producer of agricultural and specialty chemicals, has relied on FMC Auger Fillers for many years to accurately package products which have widely different densities and flow characteristics. Eight automatic and semi-automatic fillers in four Cal Spray plants are used to package such chemicals as wettable DDT, rose dust, bug meal, and tomato dust in bags, cartons, boxes, squeeze containers and cans in sizes ranging from 10 ounces to 6 pounds or more.

Ability to successfully handle such a varied "product mix" is the rule, not the exception, for FMC Auger Fillers. The semi-automatic Model EG-1 shown here comes equipped with four filling methods (cam volumetric, packing, gross weight and volumetric combined with vacuum) for both tight and loose fills. Hence, this one unit handles an almost limitless variety of products and containers . . . perfect for short runs. Many other models, semi-automatic and automatic alike, are available to satisfy unusual requirements for accuracy of fill or type of packing in both rigid and flexible containers at speeds up to 140 units per minute.



For the full story of the FMC line of Auger Fillers, write for your copy of Bulletin P-811.



Putting Ideas to Work



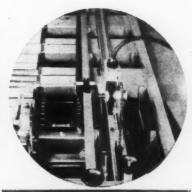
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FMC Packaging Machinery Division

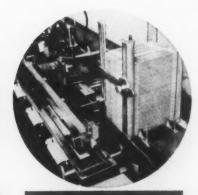
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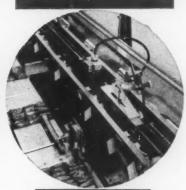
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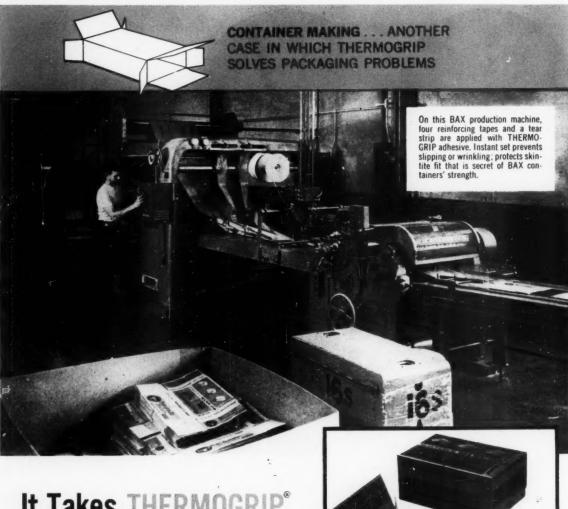
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It Takes THERN

to Make a BAX*

A BAX is a container with the good features of both a bag and a box. They're produced in one continuous operation by St. Regis Paper Company at Pensacola, Florida. They're so rugged — and yet so uniformly precise — they can be filled and sealed by the user at speeds of more than 20 a minute.

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Kraft tapes are first bonded to a web of semi-rigid kraft paper. Slits are cut in the web, it's then folded and seamed into a tube and cut off to make the finished units. The tapes firm and reinforce each long edge of the BAX and a fifth strip becomes a tear tape.

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*BAX is a registered trade-mark of the St. Regis Paper Company.

If you have any operation using an adhesive - or where another method of bonding is used because other adhesives won't give you the results or speed you want - get in touch with United and learn what you can do with THERMOGRIP adhesives.

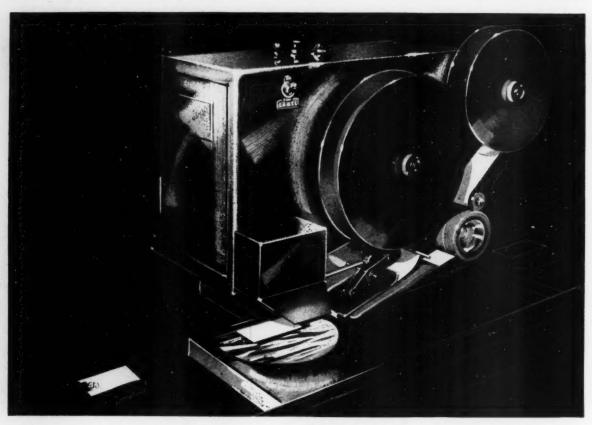
Case closed! But soon to be opened

again by grocers everywhere who sell Pillsbury products.

UNITED SHOE MACHINERY CORP. 140 Federal Street, Boston, Mass.



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MODERN PACKAGING



MILPRINT BRINGS YOUR CUSTOMER ENTHUSIASM TO A BOIL

Past package failures

inhibited the bright future once predicted for boil-in-the-pouch foods. Consumer acceptance was lukewarm. But now-Milprint has the answer in Kettle-Redi pouches!

KETTLE-REDI pouches by Milprint are the first boil-in-pouches that not only won't delaminate even under temperature extremes from sub-zero to boiling, but remain unaffected by most chemical combinations, resist tearing and scuffing, and offer high gloss reverse printing that's locked in between the laminates. It can't touch food; can't rub or flake off!

In over 60 years of flexible packaging leadership, Milprint has consistently come up with answers to tough technical problems like this one. One reason: Milprint research and design experts draw on the widest variety of materials available anywhere-and are not obliged to favor any one. This means an "open mind" approach to your packaging problem-no "selling off the shelf," but a custom-built package that meets your specific marketing needs at economical cost. Review your packaging on a regular schedule with Milprint to keep ahead of your competition. Start now-learn how . . .

Milprint, Inc., Milwaukee, Wis., Sales offices and plants across the nation KETTLE-REDI is a Milprint trademark LPRINT PACKAGING GIVES YOUR PRODUCT





Duplicate cylinders

—for 4 different printers!

The familiar Birds Eye Green Peas waxed paper overwrap is printed in gravure by four printers, from duplicate sets of cylinders engraved in New York by Intaglio Service.

The biggest packer in the frozen food field is assured of uniform wrappers from different printing plants by using Intaglio cylinders. And gets as many as 81,000,000 Birds Eye wrappers from a single set.

Intaglio, specialist in fine gravure for packaging, has developed craft techniques which help your wrapper or label to stand out at the point of sale...make friends and customers for your product.

Intaglio cylinders are precision-etched by skilled craftsmen for best reproduction on paper, board, vinyl, cellophane, foil or other materials. And have a longer life. produce more impressions, than electros.

mit

use

ava oper mat

Poly

tank

seal

show

auto

Intaglio is easy to use. We start with the original art, layout, text proofs—and deliver cylinders in as many sizes as required. And supply high-fidelity proofs for the guidance of the printer.

For better packages, and better sales, many leading mass product manufacturers have turned to gravure—and Intaglio.

With more than 500 skilled personnel (35% on Intaglio's staff ten years or longer)...five entirely new plants in the past five years...conveniently located to facilitate service in New York, Chicago, Detroit, Cincinnati and Boston. Intaglio merits your choice for the best in packaging or publication gravure.

Our eight offices are at your service.



Intaglio Service CORPORATION

America's First Gravure Servicers

305 East 46th St., New York—731 Plymouth Court, Chicago—40 Hague Ave., Detroit— 1828 Lewis Tower Bldg., Philadelphia—126 West McMicken Ave., Cincinnati— 1932 Hyperion Ave., Los Angeles—369 Pine St., San Francisco—Box 508, Boston

Packaging Notes

High-speed bottle blowing machine available from a Danish firm produces 5,000 finished bottles per hour, according to a recent announcement. Fully automatic, it operates with 1 to 5 molds, can work on 11 different cycles, has 3 inter-changeable tables (up to ½, 2½ and 5

Squeezable ink bottle blow-molded conventional polyethylene permits tidier filling of fountain pens. Pressing the of the bottle draws into a special from which pen is easily filled.



Extra-length heat sealer designed for use with thin polyethylene films makes seals up to 96" long. The latest of a series of heavy-duty, all-steel thermal units available from a New York company, it operates by foot switch and has a pneumatic safety system. Can be adapted with built-in "recycler" for automatic operation and completely controlled integral compressed air supply.



Polyethylene filling cover for drums and tanks has cavity to catch dangerous and costly spillage. It has built-in handles, expandable fill pipe opening and molded pouring lip. And, according to the producer, is chemical resistant, lightweight and unbreakable.

New moisture-tight bags, designed for highly hygroscopic products, are constructed of strong white paper laminated to aluminum foil with polyethylene coating on the foil side. All seams are heat-sealed, as is the top after filling.

A California company chose these bags over cans of comparable capacity for its instant apple sauce. Extensive testing showed they resist moisture and retain vitamins; cost 48% less than cans, take 23% less space and weigh 10% less. The product is being packaged semi-automatically in 19 oz. and 7-lb. bags flexographically-printed in red, green and velue. and yellow.

New Film for Food Packaging:

Offers Economy, Machinability and Excellent Barrier Properties

A polyethylene-saran combination which incorporates the better properties of both materials is now available commercially from a Long Island, New York, company. With the economy and machinability of polyethylene

and the outstanding barrier properties of saran, it promises to have wide po-

Reportedly, this saran-surfaced polyethylene film is odorless, unaffected by oils and fats and transmits only 0.3 to 0.7 cc of oxygen per 100 sq. in. per 24 hrs. (ASTM test D-1434-56-T). "What we have in effect," says the developer, "is a flexible packaging material with barrier and food protection qualities approaching those of a metal can."

To produce the new material, polyethylene film is extruded from U.S.I.'s PETROTHENE 200 resin, then surface-treated electronically and finally coated with a .2-mil layer of saran. The surface treatment is said to be unique in that no ozone, which impairs bonding, is pro-

degree of surface change during electronic treatment.

Prices range from \$1.59 per pound for 1-mil-gauge film to \$1.09 per pound for

According to the manufacturer, the U.S.I. resin gives the best results because it's an excellent extrusion material and produces a tough film with outstanding uniformity. Such a film undergoes a high

4½-mil-gauge film.

IF YOU WOULD LIKE further information on any developments reported in U.S.I. Polyethylene News. U.S.I. will be glad to send you the names of the manufacturers. U.S.I. sise invites you to send information on your new developments for possible inclusion in

Address: U.S.I. Polyethylene News, U.S. Industrial Chemicals Co., 99 Park Avenue, New York 16, New York,

Oil-Resistant Ink System For Polyethylene Film

Shredded coconut and other products high in vegetable oils can now be pack-aged in polyethylene film printed in as many as five colors. A new oil-resistant ink system, sold at no extra charge over regular ink systems, has been successfully tested on thousands of bags, its developer reports.

Previous ink formulations used on such oily products would soften or ruboff on nearby packages or customers' hands. Destructive tests on the new inks have shown no deterioration and have proved out shelf life and oil resistance. Special printing plates used are com-patible with the inks.





Polyethylene film goes through electronic treatment machine before being coated with saran. Process forms strong, permanent bond without use of other adhesives.

New Connector For Polyethylene Tubing

A new kind of fitting, claimed to connect small-diameter polyethylene tubing simply and economically in just two seconds, has been introduced. According to the manufacturer, the new connector will open up possibilities of replacing metal tubing with lower-cost polyethylene tubing in electrical appliances, automotive equipment and other industrial applications.

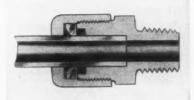


Photo courtesy D & G Plastics Co.

The fitting is an O.D. type, so there is no restriction to flow. Connection is made by merely inserting tube into the fitting with a twisting motion as far as it will go. Result is a positive seal-leakproof for vacuum, gases and fluids over a wide range of temperatures and pressures.

Connectors are guaranteed by the manufacturer to meet all requirements governing the transmission of fluids for human consumption. Available for use with standard tubing ¼", %", ½" and %"-either male or female threads.



Cast 1.25 mil polyethylene film from regular production run using PETROTHENE 218 resin.

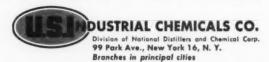
SELL MORE ON SIGHT... AND SAVE WITH CAST POLYETHYLENE OVERWRAP

Whether your product is bread or Bermuda shorts, cast polyethylene makes it look better . . . feel softer . . . sell faster.

Cast polyethylene film is crystal-clear, with a high gloss and no hint of haze. No other polyethylene film comes near it in clarity and gloss . . no other transparent overwrap surpasses it . . no other material can give your product more sales-spurring sparkle. Easy to print in any color, its glossy surface adds luster and appeal to printed art and lettering.

After cast polyethylene packaging has caught a customer's eye, it keeps on selling with its "soft feel". Unlike "hard finish" overwraps, it imparts a feeling of softness to clothing . . . a feeling of warmth and freshness to bakery products. And with polyethylene's traditional strength and moisture resistance, cast polyethylene keeps products fresh and fresh-looking . . . clean and salable despite rough handling.

Cast polyethylene overwrap saves you money in your packaging operations too. There are no special production problems. It heat seals well, and handles ea. [1] or overwrap, equipment designed or modified to handle polyethylene film. It is the least expensive transparent overwrap material you can buy. Cast polyethylene film is made by a special process from U.S.I.'s Petrothene resins. Ask your supplier to check into U.S.I.'s latest development—Petrothene 218 resin, designed for cast film overwrapping of soft goods, bakery products or paper. It is exceptional in clarity, gloss, softness and ease of handling. U.S.I.'s technical service engineers will be glad to work with him in putting it to work for you.



Wright NT WEIGHER

A new rotary net weigher for packaging the total output of a continuous production process. Examples: Dry cereals, crackers, and similar free-flowing products.

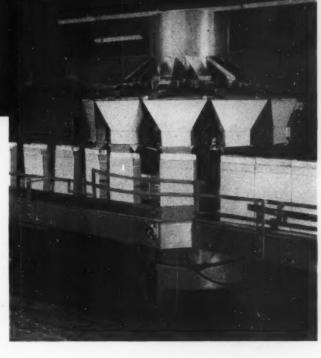
Exceptional Accuracy at High Speed plus the advantages of Straight-Line Production

Wright NT Weigher ...

so fast that it handles the total output of a continuous production process such as a giant bakery oven.

so accurate that its weight reliability exceeds that of many competing systems which operate at slower speeds.

- The product being packaged flows to approximately 95% of desired net weight into 12 buckets mounted edge-to-edge on a rotating turret. The remaining 5% is finish-filled into the buckets by their individual feeders.
- After the desired net weight is reached, product is dumped into an awaiting moving carton.
- Weighing is electronic.



- There are no intermittent motions. Product flow and carton flow are continuous. Production is straight-line.
- The system automatically adjusts for variations in product flow and density.

Your inquiry is invited. Wright Machinery Company Division of Sperry Rand Corporation, Durham, North Carolina.

WRIGHT MACHINERY

MAIL THIS COUPON
FOR COMPLETE INFORMATION



DIVISION OF SPERRY RAND CORPORATION . DURHAM, NORTH CAROLINA

Gentlemen: Please send me technical details on your new Wright NT Weigher.

NAME.....

COMPANY.....

ADDRESS.

IS CRITICAL consult WESTCHESTER - compounders of

polyolefin colors and special formulations

WHEN YOU CONSULT WESTCHESTER on polyolefin or color formulating problems . . . you receive information founded on 14 years of service to injection and blow molding companies, extruders and resin suppliers. The Westchester experience that you draw on . . . was gained by successfully formulating over 4000 different commercial color concentrates and pre-mixed color blends.

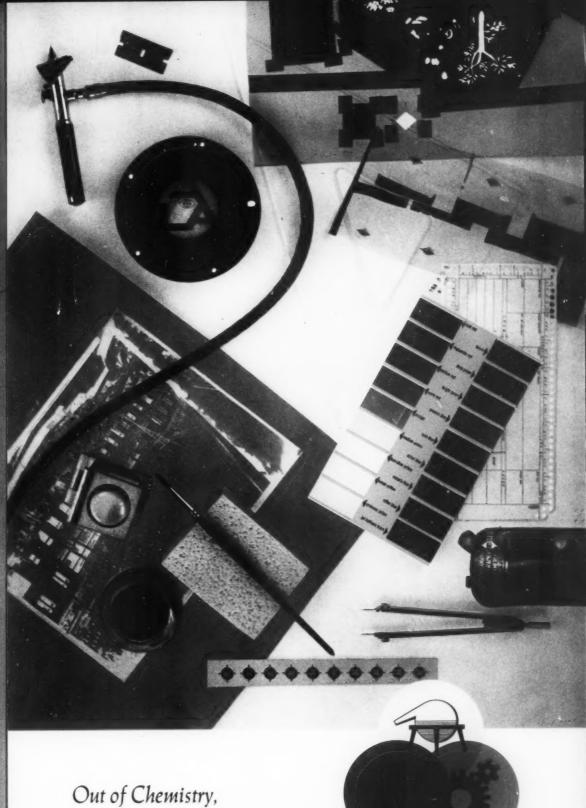
If you have a problem involving polyolefin colors or special formulations . . . a Westchester recommendation of experience may provide the right answer. Write now for complete information.

The new FDA certified Westchester colors are now available. Approved for food, drug and cosmetic packaging - These colors are supplied with a registration number, attesting FDA approval of the pigments I



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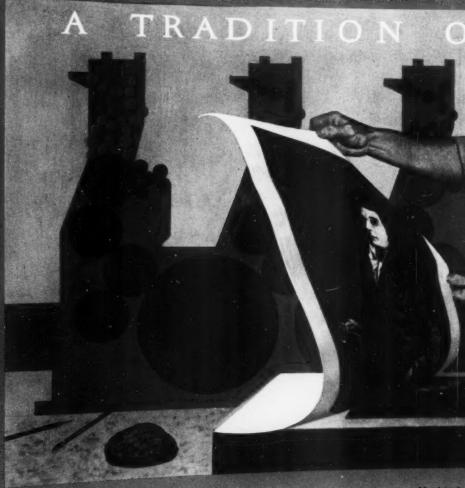
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Out of Chemistry,

Electronics, and

Advanced Technology...



AN ENRICHED TRADITION OF CRAFTSMANSI

A technical revolution in the graphic arts is in full swing across the nation

- superb full-color offset lithographic inserts for our daily newspaper inparalleled sureness and accuracy in repro-

- unparalfeled sureness and accuracy in reproducing every type of copy
 preparation and press time dramatically reduced
 ower costs and greater appeal for periodicals,
 advertising, educational aids, and the myriad
 forms of graphic art essential to our commerce,
 industry and culture.
 Unequalled in history, these advances are in the
 making through the creative power of modern
 science applied to offset lithography.

EIGHT DECADES OF PROGRESS

Working in the forefront of this movement are the approximately 40,000 skilled men and women of the Amalgamated Lithographers of A For seventy-eight years, ALA members havided the skills and knowledge to achie stantly higher quality while steadily I costs-thereby making Lithography th rapidly growing method of reproduction Graphic Arts.

A HEARTY WELCOME FOR NEW ME

Today, in more than 3,000 ALA shops to out North America and Hawaii, the ALA tinuing and enlarging its long-standing to in-plant training and technical education program reflecting the principle that a Craftsman is Good Economy.

With the advent of automatic control is speed precision and flexibility of production members are continually because in

members are continually broadenin



Mural in the ALA International Offices in New York

MANSHIP -

graphers of America. A members have proledge to achieve conrile steadily lowering ithography the most f reproduction in the

OR NEW METHODS

ALA shops through-waii, the ALA is conong-standing program echnical education—a inciple that A Good

y broadening their

A force for lithographic industry progress

command of advanced techniques and equip-

- electronic devices for accurate register, masking and measurement of tone and color
- multicolor web-fed lithographic presses that
- lithograph and perfect fine quality finished sheets at unprecedented speeds
 new dampening and inking systems
 multimetal plates, pre-sensitizing, and brush surfacing for improved speed, greater and more economical press runs.

CRAFTSMANSHIP-A WAY OF LIFE

The technological wealth of modern lithography arises from full use of the resources of science. And from one thing more: the tradition of disciplined skill handed down by four generations of ALA craftsmen.

No. 1 and its officers foster improvement in over-aspect of their art—through research.

information on the latest materials and equipment.

Above all—as newcomers spendily learnthere's a special stimulation to accomplishment in training under those who are masters of their craft ... whose devotion to fine workmanship is infectious...whose committeent to craftsmanlike ideals is bred by long-standing association with similarly skilled and responsible men.

AMALGAMATED LITHOGRAPHIES OF AMERICA



NATION-WIDE PRAISE FOR ALA POLICIES

National acclaim for ALA's contributions to the advance of the Lithographic Industry is without parallel in labor history. Here are a few representative comments from leaders in business, labor, and public affairs—

"A union that not only accepts labor-saving devices but actually pours funds into promoting their use. This magnificent dream is actually coming true in the Lithography Industry..."

—THE WALL STREET JOURNAL

"The ALA is a magnificent lesson in Democracy."

—UNDERSECRETARY OF LABOR, JAMES T. O'CONNELL

"...Here I find a Union that...is actually investing money to help promote and to discover new methods of automation. This is truly unique and most distinctive, and I feel that this...is in line with American progress...recognizing that in automation we create more jobs, and we create new jobs."

-MARK HATFIELD, GOVERNOR OF OREGON

"The recently negotiated contract between Local 1 of the ALA and the Metropolitan Lithographers Association is exceptional...lt is the fruit of a relationship between the union and the employers of unusual confidence and respect—also evidenced by the fact that their contracts have been negotiated for forty years without a single strike."

—THE NEW YORK TIMES

"New York State is proud of the ALA's excellent record in the field of management-labor relations. They should also be proud of their enlightened attitude towards technological advancement in their craft, and the rapidity with which they have acquired new skills. The consequence is to be seen everywhere in the beauty of modern American Lithography."

-NELSON A. ROCKEFELLER, GOVERNOR OF NEW YORK

UNION DEMOCRACY IN ACTION

Founded in 1882, the Amalgamated Lithographers of America adheres to the principle of service to its membership and the Lithographic Industry at large.

All officers must be skilled craftsmen themselves. They are elected by sealed ballot referendum of the local rank and file membership.

Local No. 1, founded in 1882, carries forward this tradition of union democracy in the metropolitan area of New York. Here more than 8,000 ALA members serve, the varied and exacting needs of the world's greatest concentration of publishing, communications, and graphic arts enterprises.



MALGAMATED LITHOGRAPHERS OF AMERICA

Loop F + Edward Smaphick, President + 1 - University Plan Vis Vis Vis V.

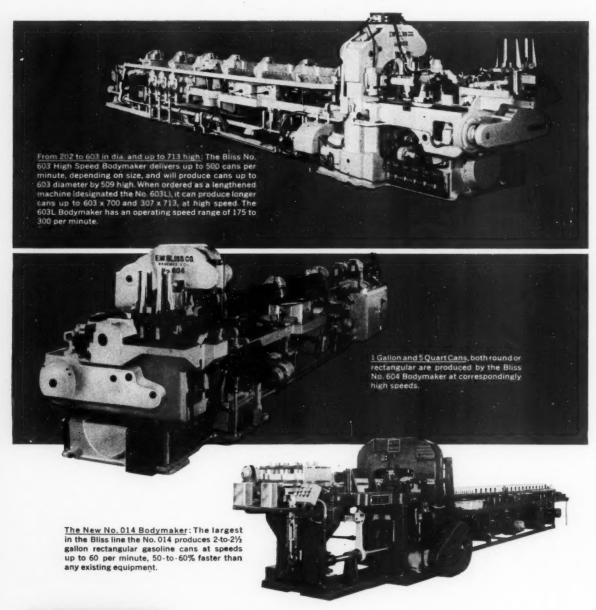
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"Built by Hamac-Hansella"

BODYMAKERS BY BLISS

for every body size and type

These Bliss bodymakers cover the entire range of can sizes and shapes, from the smallest standard sanitary can, up to $2\frac{1}{2}$ gallon tins. For complete information about any of them, write us today.





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PRESSES . ROLLING MILLS . ROLLS . DIE SETS . CONTAINER MACHINERY . CONTRACT MFG. . PUBLIC SAFETY

BEGINNING YESTERDAY, CCA PEEL-PROOF MEANS A WAX LAMINATION TWICE AS STRONG AT NO INCREASE



IN COST







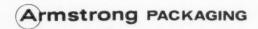
Our laboratories researched it, our mills developed it, the new Concora Peel Tester verifies it: CCA's PEEL-PROOF laminating process more than doubles bond strength, hence carton performance. One way to be sure of lamination strength is to spot-check shipments with your own Peel Tester. Easier still, specify PEEL-PROOF board and depend on CCA facilities coast to coast to deliver nothing less. The CCA packaging system will pack, move and sell your product faster, better - more profitably. Information from Container Corporation of America 99 Park Avenue, New York 16. @ CCA. 1981

FOLDING CARTONS SHIPPING CONTAINERS SEFTON FIBRE CANS MOLDED PLASTIC PRODUCTS POINT-OF-PURCHASE DISPLAYS PAPERBOARD CONTAINER CORPORATION OF AMERICA CHICAGO 3...LOCAL SERVICE FROM 122 STRATEGICALLY LOCATED MARKETING CENTERS



THE CAP THAT DOESN'T COME OFF. And it isn't supposed to. Its job is to hold the sprayer* in this new Bactine® bottle. The rub is that to keep this cap on (while a second cap that covers the sprayer is being unscrewed) the customer had to apply it at especially high torques. That meant designing a cap three times as strong as any standard cap. Our designers did this so well that we were able to go directly from drawings to production tools and meet a stiff dead-line without a hitch. The customer got the cap he needed . . . exactly when he needed it.

* Sprayer by Calmar, Inc.





Background for Packaging

New opportunity for expansion of export sales of packaged goods: Countries getting our dollars for foreign economic aid now are required to spend most of it right here. This applies particularly to Far East, Mid-East and South American countries. Meanwhile, a Nielsen survey shows expanded potential for U. S. manufacturers in Western Europe: The combined gross national product of 11 countries there has grown from 49% of U. S. total in 1950 to more than 57% in 1958; these countries have a combined population of 215.5 million vs. 180 million in U. S.

Look for rapid growth of supermarkets in Europe, with all that that implies for the design of American packages intended for this market. Checkout stores in Europe generally are at about the point we reached in late '20s. But growing prosperity, more cars and suburban living lead marketing experts abroad to predict "explosive" growth in next few years. In contrast to U. S., where an estimated 98% of all retail foods are sold at self service, the figure in West Germany now is 12%, in Scandinavia it is currently 10%, in England 4.3%, in Switzerland 7%, in France 0.9% and in Italy the figure is now 0.1%. All of these are growing.

Extensive revamping of F&DA is called for in the long-awaited Kendall Report on the Administration's investigation of Health, Education & Welfare Dept. under Secretary Flemming. The report said the present lines of command within F&DA did not encourage thorough investigation "and frankness of report." and that it was becoming too dependent on self policing by industries. It hit hard at the failure of F&DA to keep the public, as well as industries, fully informed. Corrective measures recommended will be considered by the new Administration.

Question of terminology arises because of present interchangeable use of "linear" and "high density" in reference to polyethylene. Packagers would be well advised to settle on density as a means of polyethylene classification, since this permits quick differentiation of the three classes now generally recognized: "low density" (0.910 to 0.925 specific gravity), "medium density" (0.926 to 0.940) and "high density" (0.941 and up). "Linear," although it is generally a high-density material, offers no means of distinguishing degrees or grades of polyethylene.

Economic reasons for the growing importance of aluminum as a can material are graphically shown by W. K. Neuman. Continental Can Co., in a recent talk. While the price of aluminum-strip can stock itself (5052 alloy, 0.010 gauge) has remained practically steady since 1957, the cost of converting has been cut by about 75%. But even with an estimated 118 million pounds of aluminum can stock to be used in 1960-61 (for oil and citrus concentrate), only a little more than half of present can-stock capacity of the aluminum industry is being used.

Another convert to supermarket selling is one of the oldest and most conservative of U. S. boxed-candy firms: Stephen S. Whitman & Son. After four years of study, Whitman has launched an intensive campaign in supermarkets for 29-cent and 39-cent boxed-candy items, using 40 food brokers for nationwide distribution. Promotional efforts include premium offers and point-of-sale aids such as dump bins, end displays, counter cards and window streamers. Results so far: "Beyond our best expectations."

Trend to containerization for lower shipping costs may be spurred with use of helicopters. Sikorsky Aircraft recently dem. [Continued on page 42]

Notes, quotes and comments.

An editorial feature



FANCY FREE

BALANCED
PERMANENT
WAVE
BY
HELENE
CURTIS



new twist for a hair-do with

...BRITE-PAK ENAMEL COAT

A proud, perky package with an attractive, snowy-white interior enhances the feminine appeal of Fancy Free, the new professional balanced permanent wave by Helene Curtis. This is another reason so many smart women find Fancy Free hard to resist.

The Fancy Free package . . . beautifully produced by one of our customers . . . uses Brite-Pak Enamel Coat bleached board to obtain the extra sparkle—inside and out—that means so much in sales.

Enamel Coat's smoothly gleaming surface is unsurpassed for fine, full color process printing and for brilliant illustrations. Yet, it is truly economical.

To see how Brite-Pak Enamel Coat can help you upgrade your packaging, write to Bleached Board Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y.





West Virginia
Pulp and Paper

onstrated in New York how a bulky container of packaged goods may be quickly moved from truck to ship—and vice versa—by helicopter. Company will soon start production of special nine-ton freight-lifting aircraft.

Frozen foods face a crackdown on shipping and handling practices which may be a blessing in disguise if it results in delivery of better quality to the consumer. Several states, working from a model code adopted by the Assn. of Food & Drug Officials in June, 1959, are considering legislation requiring maintenance of zero-degree temperature and other quality-control measures. A recent nine-month study-in-depth by Donald Deskey Associates, reported in Food Topics, discloses "deplorable practices in the handling of frozen foods at every level from shipping to selling point," with lax temperature control in retail stores the chief offender.

Spectacular growth is forecast for plastic bottles, based on success with high-density polyethylene. Having cornered 80% of the liquid-detergent market in little more than a year, these low-cost, thin-wall bottles are now aiming at bleaches, shoe polish, wax, shampoo, hand lotion and rubbing alcohol. One prediction is that production, reaching 40 million last year, will hit three billion units by 1965; another, even more optimistic, predicts a rise in the plastic-bottle industry's dollar volume from \$100 million this year to \$1 billion by 1965. Phillips Chemical predicts that the bleach field alone will take 60 million pounds of high-density resin a year—one-third of total production figure for 1960.

Continued growth of polyethylene film as a bread wrap is dramatized by full-page ad in local newspaper for Tibma Baking Co., La Porte, Ind., including a full-page insert of the new Visqueen OB ("bread overwrap") film this bakery adopted. Ad emphasizes the "feel of freshness," quality and clarity of the wrap. Believed to be one of the largest uses yet of polyethylene film in promotion, the ad appearing in the Michigan City News-Dispatch required the use of 33,000 lineal feet of 17-in. film.

Foil gains fast in the field of boil-in-the-bag packaging, which was pioneered by high-cost special plastic films. Most pre-cooked foods are not eye appealing in frozen form, so transparency of package is a doubtful asset. Foil makers claim that foil's share of this market (usually in a foil-paper-polyethylene combination) now stands at 30% and is steadily increasing. Three important advantages cited for the foil material are lower cost, better heat conduction and better printing surface.

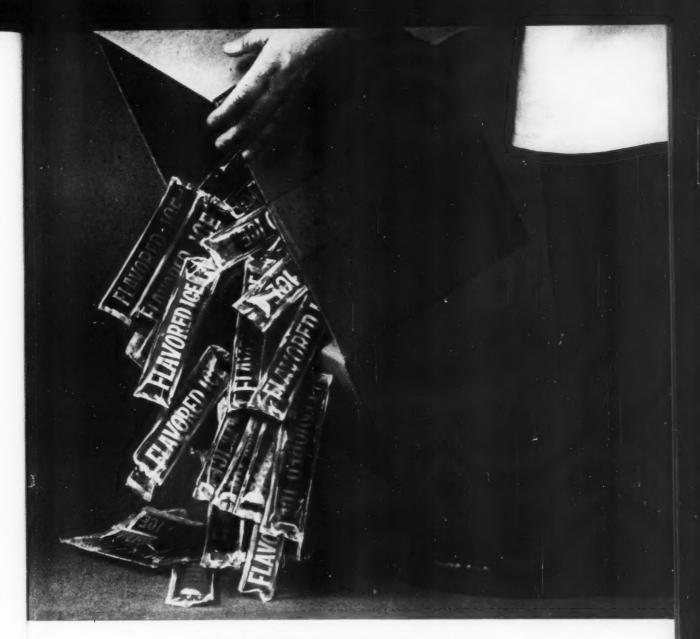
Packagers must adjust to an evolutionary change in inventory practices, which may have contributed to the recent slide in business activity. Business men in all levels of industry, as Purchasing Week points out, are holding to a far lower ratio of inventory to sales than ever before, due to (1) greatly enlarged capacity in most industries that eliminates fear of not being able to get supplies and (2) the speed-up in information brought about by computers and electronic data processing.

Pre-packagers are missing an opportunity to put more helpful information on their labels, according to a recent survey by the Better Packaging Advisory Council. The survey discloses that on pre-packaged fresh meats, the label seldom conveys anything except the name of the cut of meat, the weight and the price. Consumers are being left to determine for themselves how meats or produce should be stored, cooked and served. One of the criticisms of pre-packaging voiced by a McCall's consumer panel through United Fresh Fruit & Vegetable Assn. was the lack of recipes.

Liquid p Millions ing, syr products really st ming of And a p package product life.

It's 1
packagi
your pre
Not to n
storage
To a

Tube I



Liquid products are safe in Print-a-Tube Flexible Packages

(and they sell better too!)

Liquid packs by Print-A-Tube are tough. Millions of packs for shampoo, salad dressing, syrup, chemicals and other liquid products have proved it. Flexible films really stand up to the squeezing and slamming of shipping and in-store handling. And a precision-engineered Print-A-Tube package completes the protection your product needs by providing longer shelf life.

It's likely that the switch to flexible packaging will save you a big chunk of your present packaging material costs, too. Not to mention additional savings in lower storage and transportation charges.

To assure uniform quality, Print-A-Tube provides a completely integrated

service. We start with a careful evaluation of your product, design an effective retail package, extrude or laminate the appropriate film under rigid quality controls, and supply the printed material ready for filling.

Let us analyze and test-package a sample of your product. We'll be happy to provide this service without charge or obligation.

A DIVISION OF RIEGEL PAPER Charlotte, N. C.; Greensboro, N. C.; Cheltenham, Pa.; Atlanta, Ga.; Chicago, III.; Danville, Va.; Paterson, N. J.

DESIGNERS AND MANUFACTURERS OF PRINTED PACKAGING IN FILM, FOIL, PAPER, PAPERBOARD

FREE—32-Page Packaging Machinery Manual

A comprehensive guide to today's tremendous variety of laminating films and packaging machines. Write today for your free copy,

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Please send me a free copy of your Packaging



Machinery Manual. COMPANY

SIBLET

EQUIPMENT & MATERIALS

Easy-open ice-cream carton

Marathon introduces the "Flip 'n Dip," a one-piece topopening, reclosable ice-cream carton. The lack of end flaps adds convenience to in-plant filling and in-home serving of



the product, the supplier points out. Carton blanks are shipped flat to user companies, for set-up, sealing, filling and closing on a high-speed, automatic machine which is available under lease terms. Production speed of this unit is rated at 50 half-gallon cartons per min-

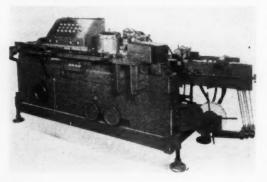
ute. The carton is priced at \$42 per thousand. This price, says the supplier, is well below that for other linerless cartons and is less than half that of round canisters. Because the carton blanks are shipped flat, they take 1/43 as much warehouse space as round canisters, the company notes. Although developed primarily for ice-cream packaging, the new carton and machine also are suggested for use in the packaging of cookies, frozen foods and shortening. Marathon, Div. American Can Co., Menasha, Wis.

'Hazeproof' acetate sheet

Eastman Chemical has developed a new formulation of Tenite acetate, for extrusion into clear thin-gauge sheet, that reportedly will not cloud or haze during vacuum forming. Sheet extruded from the formulation is especially suitable for use in blister and skin packaging, says the supplier. The material (formula 081) can be deep drawn without clouding or hazing, according to laboratory tests. The acetate also has such advantages as toughness and high impact strength, the company notes. Eastman Chemical Products, Inc., Kingsport, Tenn.

Roll-feed labeling unit

Suggested for use in the food, drug and cosmetic industries is New Jersey Machine's Label-Dri Champion with roll feed. The machine is claimed to be capable of applying 300 labels per minute. An electric eye controls intermittent advance of the label web; during the dwell, the leading label is parted from the web at the same time as the printing head descends on the label directly below



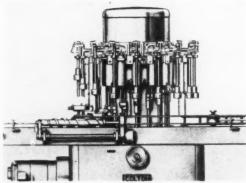
it. Label cut-off is extremely accurate and code-imprinting quality is uniformly high, says the supplier. Code numbering is automatic. Additional information about this automatic labeling machine is offered by the supplier company. New Jersey Machine Corp., Hoboken, N.J.

Strong multiwall-bag closure

ImpacTape is the name given by Westvaco to a new fourply kraft tape closure which is claimed to double the impact resistance of sewn-end multiwall bags. The closure tape minimizes bag breakage at the sewing line, where most sewn-end multiwall bag failures occur, the company says. The closure consists of a piece of kraft tape, the edges of which have been folded under the sewing line with the needle passing through four layers of tape, instead of two layers as in the conventional closure. In addition to the strength which is imparted by the four sewn tape plies, the inward fold of the tape is said to further cushion the sewing line against shock damage. The improvement is now available on all closures made in the supplier's bag plants, and equipment is now under development that will enable customers to apply the closure to sewn open-mouth bags after filling. West Virginia Pulp & Paper Co., 230 Park Ave., New York 17.

16-station rotary filler

Filling speeds of up to 320 containers per minute are attainable on the new Model 116 volumetric rotary filler, says Colton. The 16-station unit will fill containers of up to



4-in. diameter and 10-in. height with a variety of products, including liquids, pastes, creams, food products and chemicals. Amount of fill is adjustable from ¾ to 32 fl. oz. Among the features cited for this machine are; a low-speed, large-diameter discharge star wheel that reduces whip force on the filled container; individual nozzle-tip shutoff; fill adjustment for each station, and infinitely variable platform rise adjustment, for bottom-up filling. Details are offered by Arthur Colton Co., Div. Snyder Corp.; 3400 E. Lalayette St., Detroit 7.

Molding and extrusion plastics

Monsanto Chemical offers a versatile range of styrenebased plastics for molding and extrusion. Performance and physical properties range from those of paper to those of some metals, says the supplier. Among the products which can be fabricated from the plastics, which are trade-named Lustran, are disposable containers and other packaging items. The materials are reported to possess the following properties: excellent rigidity, toughness, high tensile

GAYLORD designs out

the extras

Last year, a certain manufacturer used a shipping container with <u>21</u> interior pieces. Although it was effective, assembly costs were high, so the container was presented to Gaylord designers for revision.

Result: a container with only 9 interior pieces, that has less tare weight, makes assembly easier, and reduces packaging costs 3313%.

Simplify *your* packaging problems. Let Gaylord design the extra pieces, weight, trouble and cost *out* of your corrugated containers. Call your nearby Gaylord Man today.





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HEADQUARTERS ST LOUIS PLANTS COAST TO COAST

Equipment & Materials [Continued]

strength, superior abrasion resistance, thermal stability, ease of processing and good appearance. Introductory prices range from 37 to 51 cents per pound in carload quantities. A 50-million-pound-per-year plant to manufacture the materials, at Addyston, O., is expected to be completed this year, the supplier reports. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

Transparent barrier material

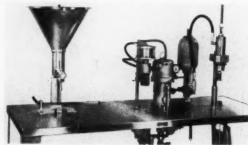
New from Continental Can's Flexible Packaging Div. is a transparent barrier material that is claimed to possess exceptional machine-forming and heat-scaling characteristics. The film, a laminate of polyethylene (2 mils) and polyester (½ mil), is identified as 2091 EB. It is reported to meet rigid military specifications as a barrier material. According to the supplier, the protective, transparent film provides for visual inspection of contents on the packaging line, during storage and at the point of use, without destruction of the finished package. Additional information about this material is available from Continental Can Co.. Flexible Packaging Div., Mt. Vernon, O.

Easy-opening carton tape

A reinforced gummed tape, reported to combine the strength of reinforced tape with an easy carton-opening advantage, is offered by Mid-States Gummed Paper. The tape, dubbed Stres-Pruf E.O., is non-a-sphaltic glass-fibre reinforced. It has a top layer of reinforced construction that can be stripped off the carton, leaving only a thin kraft layer that can be broken easily to open the container. The two-layer tape closure saves time in carton opening and avoids damage to the contents, the supplier notes. It is especially suitable for multi-trip cartons, since build-up of kraft fibre is negligible even after 25 re-taping operations, according to the company. Mid-States Gummed Paper Div., Minnesota Mining & Mfg. Co., Bedjord Park, Ill.

Aerosol line and polyethylene bag

Two diverse items newly available from Kartridg Pak are a small aerosol-packaging line and a resealable polyethylene bag. The compact new aerosol line consists of a concentrate filler, crimper for a standard 1-in, valve and a propellant pressure filler with accumulator and handling



pump. These components (see illustration) come mounted on a stainless-steel table that occupies 30 by 72 in. of floor space. The company also is introducing the KP Snap-Sac, a sterile, rescalable polyethylene bag. The bag is sealed both top and bottom; it is opened for filling by zipping off the top along a perforated line. Below the perforation is a wire tape closure that extends from either end of the bag at the lip line. When the bag is opened, the wire (embedded in the tape) keeps the bag open, to facilitate the filling operation. For bag sealing (and re-sealing after first use) the tape is pulled taut, the top of the bag is rolled down and projecting tape ends are bent over. The closure thus formed is claimed to be liquid-tight. For more data on the aerosol line and on the resealable bag, contact Kartridg Pak Co., Franklin Park, Ill.

The 'slim look' in aerosol dispensers

A slender acrosol container, designed primarily for pursesize packaging of spray fragrances, has been developed jointly by Bridgeport Metal and VCA. Construction of the

new unit is shown in the accompanying cross - section drawing. A refillable outer container : (aluminum or brass) accepts a stainless - steel ONE PIECE TANK cartridge and & DIP TUBE 13mm metered valve. The dip DOUBLE STEP tube is incorporated into the molded - plastic STAINLESS STEEL body construction CARTRIDGE of the valve so that it cannot become disengaged. The tube also is notched at the bottom to elimi-NOTCHED DIP TUBE nate product seal-ELIMINATES SEAL OFF off. The cartridge's

double-step construction allows for the actuator to function while accommodating an 11-cc product volume without over-clongation of the package. Vertical lances on the outer edge of the actuator cap engage the beaded section of the body shell so that cartridge and actuator cannot fall out of the case. The outer case is available in a variety of colors and designs. Bridgeport Metal Goods, Bridgeport, Conn., and I.C.A. Inc., Bridgeport, Conn.

Stainless-steel cup caser

American Can's Dixie Cup Div. reports that its Model 10-DPS is the first stainless-steel machine for casing waxed paperboard cups for cottage cheese, sour cream and other moist food products. The automatic unit can handle up to 200 of the round nested containers per minute (or eight 24-pack cases), says the supplier. Filled containers are fed directly to the caser input convéyor. Here they are collated in single or multiple layers and loaded into end-opening shippers. Cases then are automatically glued and sealed under pressure. If a case is not properly set up and ready to move into the caser, the filling operation is automatically suspended. Maintenance costs of the easy-to-clean stainless-steel caser are low because the only continuously moving part is the infeed conveyor, the supplier notes. American Can Co., Dixie Cup Div., Easton, Pa.

Crystal-clear clinging PVC

A clinging oriented polyvinyl-chloride film, designed for in-store packaging of produce, poultry, meat and cheese, is new from Reynolds. To be sold under the company's Reynolon trademark, the film is claimed to be crystal clear and to possess superior heat-sealing and heat-shrinking qualities. It is available in four formulations, ranging from a rigid machinable film for automatic packaging operations to one with softness and high cling for hand wrapping. The film is supplied in 3,000-yd. rolls, 4 to 60 in. wide, by Reynolds Metals Co., Richmond 18, Va.

Fluorine-containing thermoplastic

Kynar is a vinylidene fluoride thermoplastic resin reportedly designed for long life and high performance in environments which degrade less stable materials. It is available (in semi-commercial quantities) as molding powder and pelletized resin from Pennsalt Chemicals. The resin can be extruded and molded into many complex shapes on standard equipment, says the supplier. Laboratory tests show the material to be tough, resistant to distortion and creep at low and high temperatures, resistant to corrosive



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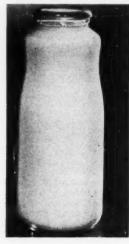
HARCORD MANUFACTURING CO., INC., 125 Monitor St., Dept. MP-2, Jersey City 4, N.J., New York Telephone: BArclay 7-5685

*Patent #2820581

Equipment & Materials [Continued]

chemicals, flame resistant, and stable under extreme conditions of weather and ultraviolet radiation. Among the packaging applications suggested for it are: drum and container coatings; sealed pouches for chemicals, lubricants and propellants, and sterile packages for food, pharmaceuticals and medical instruments. Pennsalt Chemicals Corp., 3 Penn Center, Philadelphia 2.

Lightweight one-trip glass bottle

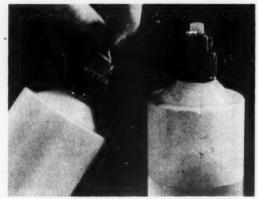


Designed for one-trip service in the bottling of cream is Owens-Illinois' new light-weight glass Econo-bottle, available in half-pint size. The no-deposit, no-return dairy container is reported to weigh only 5 oz., compared with 8 oz. for the standard glass half-pint bottle. According to the supplier, the low-cost new bottle fits in most dairy cases which are used for conventional tall half-pint containers, and can be accommodated in standard obhalf-gallon long washer pockets. The bottle also features a distinctive new shape, indented slightly near the shoulder for more secure gripping. It is reported to accept the stand-

ard-size 38mm dairy cap. For further data, contact the supplier company. Owens-Illinois Glass Co., Toledo 1, O.

Tamperproof, self-opening closure

From Holland comes an interesting development in closures for polyethylene squeeze-to-use bottles. It is a two-piece polyethylene closure that not only provides tamperproofness in the store but also offers a self-opening feature. It consists of an outer, screw-threaded shell with a molded-in spout and a separate sealing plug which is slidably posi-



tioned in the neck of the outer shell. A narrow, molded in "bridge" across the top of the hollow shell holds the plug immovably in place, sealing off the spout so that the product in the bottle cannot be dispensed accidentally or for in-store trial. The purchaser readies the container for dispensing use simply by snapping off the retaining bridge (see illustration). Thereafter, when the flexible bottle is squeezed, internal pressure forces the plug upward, opening up the spout for product discharge. A circular flange on the bottom of the plug keeps it from being forced com-

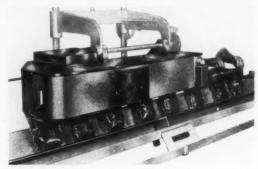
pletely out of the main closure. The container is resealed simply by pressing the plug back into the neck of the screw closure, blocking the spout orifice. Druflex Holland, 191 Nieuwe Gracht, Utrecht, Holland.

Rotary cottage-cheese filler

Triangle Package Machinery introduces a rotary cottagecheese filling machine. The automatic Model DR-1 has a simple rotating disk that is said to provide positive cup control at speeds up to 70 containers per minute. The rotating disk, which holds cup containers and carries them under the filling head, also is claimed to eliminate tipping and spilling. Replaceable disks make change-over quick and easy, says the supplier. The new rotary machine can handle paper or plastic cup containers and lids. Triangle Package Machinery Co., 6040 W. Diversey Ave., Chicago 35.

Sealer for polyethylene bags

Pack-Rite Machines introduces the Poly Bag Top Cut-off Sealer, a multiple-grid unit designed for use with polyethylene bags of up to 4-mil thickness. Claimed to operate at speeds up to 286 bags per minute, it can accommodate bags ranging from 2 to 8 in. wide. In a three-stage operation, the unit heat seals the bags, automatically trims off up to 4% in. of excess film above the heat seal, and ejects



bags and trimmed tops. Bags may be fed into the machine horizontally, vertically or at any angle. Built into the sealer is a variable-speed drive with a range of 315 to 995 lineal in. per minute. Cut-off and sealing are accomplished by multiple low-voltage grids, each controlled separately by its own pushbutton switch. By varying the number of cut-off and sealing circuits used, optimum seals can be obtained for any thickness or density characteristics of film, says the supplier. Safety features also are incorporated in the machine, according to the manufacturer. Pack-Rite Machines, 407 E. Michigan St., Milwaukee 1.

Frozen-food carton improvement

Frozen-food packers can save up to 5% on carton costs with the new TK "61" carton, reports Western-Waxide. A new locking-tab design, says the supplier, assures secure closure while eliminating most of the bulk and weight of the front fold. The new carton reportedly can be handled on Kliklok machines with minor modifications. The carton fills and handles efficiently on automatic filling machines, and is easier for the housewife to open and empty, says the company. For details, contact Western-Waxide Div., Crown Zellerbach Corp., San Leandro, Calif.

Saran-coated polyethylene

Plastoid Corp. is marketing a polyethylene-saran combination (polyethylene film coated with a 0.2-mil layer of saran) that is expected to have a wide market in the food-packaging field. The polyethylene film is extruded from U. S. Industrial Chemicals' Petrothene 200 resin. According to the supplier, the coated film combines the economy and machinability of polyethylene with the barrier properties of saran. It is reported to be odorless and impervious to [Continued on page 150]

"Th



"This new CHASE POLY-PLY multiwall bag is a real Problem Solver"

Says Lee Schram, Multiwall Bag Buyer, Morton Salt Company

The Morton Salt Company needed a new and better bag for its salt shipments—a moisture-resistant bag that would be easier to handle and ship, more flexible at low temperatures, highly resistant to abrasion and rupture, yet economical in cost.

To solve this problem, Chase developed the Poly-Ply Multiwall Bag featuring an entirely new construction. It combines—for the first time—the advantages of a ply of light-weight sheet polyethylene and heavy-duty multiwall paper. It provides excellent moisture protection...extra strength...new ease of handling...flexibility even at temperatures way below zero. After six months testing under commercial conditions Morton officials report highly satisfactory results!

If you package moisture-sensitive products—such as sugar, chemicals or fertilizers—this new bag can be a problem solver for you, too. It is now available in 25-, 50- and 100-pound sizes. Call your Chase representative for full information.



New and Unique Construction: separate, intermediate ply of sheet polyethylene, shielded by heavy-duty kraft paper inside and out, assures effective moisture protection, strength and easy handling advantages.

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TOCCUTON set up filling & closing machine



- · A completely new self-contained portable unit
- With Zipper Plows for efficient closing of lock-type, end-opening cartons
- Fast up to 350 cartons per minute

Simply plug it in, fill the carton feed magazine with flat cartons, flip the "start" switches, and your FMC Model HU Carton Handling Machine takes over-giving you one of the smoothest high speed automatic machine operations in your entire plant.

No other carton handler-packaging such products as pies, frozen dinners, ice cream cakes and pizza pies-gives you all these advantages:

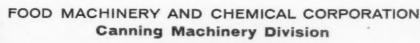
- 1. High speed in continuous, automatic operation up to 350 cpm, depending on product.
- 2. Panel-board controlled for low cost, one man operation.
- 3. Trouble-free operation and long machine life this is

ruggedly designed and precision constructed equipment.

- 4. Portable for roll-around positioning in various working
- 5. Versattle engineered for quick and easy adjustment to handle a variety of products requiring carton dimensions ranging from 63/8" to 14" long by 3" to 101/2" wide, flaps open.
- 6. Sanitary, easy to clean constructed of stainless steel and aluminum, and to NEMA 4 Electrical Code.

You're sure to want complete information on this outstanding FMC unit. Write today, or ask your FMC representative to call.

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This crystal clear polyethylene cast film lasts far longer on the shelf than cellophane...eliminates wrinkled and split wraps...stacks easier...yet costs you less at the end of the production line.

METAPLENE — now the clearest poly film on the market — is a medium density polyethylene with the high tensile strength, stiffness and uniformity essential for high speed production on modern packaging equipment.

Excellent printability and no heat sealing problems are still other important advantages of METAPLENE. Ludlow supplies flat film up to 72 inches in width...with a thickness tolerance of plus or minus 5%.

Why not get all the facts about METAPLENE? Write today for samples and technical data on this and other new plastics made by Ludlow's new cast film process. Write Dept. MP-21.

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No telling at a glance which type of stitch is most practical for your container. But this much is certain: Acme Steel can supply it. Only Acme Steel manufactures complete lines of both stitchers and wire.

Zipping out from continuous coils of wire, steel stitching is unmatched by any other method—glue, tape or staples—for closure security and production economy. They ignore heat, cold and moisture . . . are unbeatable for strength; uniformity and low labor cost.

Look to the leader-for expert counsel on your closure

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STITCHING



Millions of kitchens in corrugated

America's fifty million homes use appliances by the kitchenful. Millions of toasters, coffee makers, ranges, washers and other wifesavers are shipped in boxes by Hinde & Dauch Division. Leading appliance manufacturers know they can count on H&D for money-saving corrugated containers in volume.





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WE ASK THE READERS

What ideas has your company developed for training new production-line or creative packaging personnel?



Herbert Q. Merrick, Jr. Assistant Director Packaging Department E. R. Squibb & Sons, Inc. New York

Before a man can be considered capable of creating a new package or improving an existing one, he should be thoroughly indoctrinated in the packaging-production methods and containers used by his employer. This can be best accomplished by spending considerable time in the plant and in charting, for his future reference and guidance, a complete report on the production lines, including each type of packaging equipment in use, and on the products and their end use. This background should also include reference material on service facilities, the number and disposition of operating personnel and information on any of the current container problems.

Such educational reports should be reviewed by the head of the package-development operation to correct false impressions and to redirect the trainee to specific packaging areas where he has not fully grasped the significance of an operation.

In addition to understanding his own company's facilities, equipment and problems, the trainee should make carefully scheduled visits to vendors to study manufacturing processes and investigate process limitations and quality-control procedures.

Finally, it always should be borne in mind that package planning and development require continual training at all levels. Just as any professional man should continually review new products and processes, so should the package developer be furnished with ways and means of keeping up to date in his field. In addition to reading periodicals and references, it is a good idea, in companies employing several package developers, to hold educational forums at least once a month. Each packaging-development man should review for all interested departmental personnel the history, peculiarities and most modern examples of any prime container material on which he is working. The forums could also be extended to include reviews of such other subjects as departmental procedures, packaging of samples, competitive packaging, and new and old company products. The discussion groups can also enlist outsiders for consideration of such topics as package design, supplier manufacturing problems and materials.



A. M. Iacono
Head, Packaging Department
U. S. Vitamin & Pharmaceutical Corp.
Yonkers, N. Y.

Too often one gets the idea that training new production-line or creative packaging personnel is something that can be accomplished in a rather automatic way. To an experienced executive, this concept is indeed false and loaded with wishful thinking.

It should be recognized that packaging operations—for many companies—constitute the greater share of manufacturing costs. Also, there are many basic economics of packaging which, because of their overlapping and related importances, complement each other in spelling out the underlying objective: obtaining maximum production output as well as maximum protection and high quality at the lowest possible unit cost. Such being the case, my comments will, therefore, be limited to certain aspects of this subject.

Training of new line personnel begins on the first day of employment. A background of the company's history and products is made known to the employee. A tour of the packaging department is made with the new employee, pointing out the equipment used and its functions. Usually the new employee is assigned to hand work; later, depending on his or her ability and departmental needs, a promotion to machine work is made. We use the "buddy system" in training our operators. This on-the-job training is supervised by the group leader and the supervisor in charge. In addition, we stress and dramatize package defects. This procedure affords the new line personnel an opportunity to eliminate or keep rejects to a minimum. Generally, the training period varies from one to two months. It can be increased or decreased, depending on the particular circumstances.

Herbert J. Zeller, Jr., Director of Styling, Motorola Inc., Chicago: Because of the increased emphasis placed on high-key design appearance in today's mar-

ket, especially in consumer-product areas, the "appearance" aspect of the total product (equipment concept to packaging) is, of necessity, closely directed and controlled by Motorola's Styling Department.

Over a period of years, policy with regard to a practical training approach has been implemented to insure a high level of efficiency and styling excellence throughout the department. In the training situation, for example, we have found that by giving new designers specific design problems to solve, they more readily and easily make a transition from the classroom situation to the commercial working situation.

This results, we feel, in the individual realizing his capabilities much more rapidly than were he to be kept in a purely "observing" situation for his early months on the job.

Through a trial-and-error approach (of course, under some guidance from the design director), assignments to real or actual projects to work out solutions to layout, typography, printing and production, accelerate the new designer in accumulating knowledge and experience to lead him along the route to more complex and challenging problems.

More experienced designers consult with the apprentice, but encourage exploration and experimentation to foster expression of the trainee's own personality, creativity and development of ideas. In addition, the new designer is placed almost immediately in working situations with suppliers to step up both his professional flexibility and his over-all contribution to the total departmental effort.

Another aspect of this "training" approach is to strongly encourage the new designer to individually collect and assimilate information about Motorola's corporate activities, gaining a reserve of knowledge to correlate his creative efforts to the marketing, research and advertising groups, designers and engineers.

"Learning by doing" chances the criticism of a cliché, but experience has shown Motorola how valuable and practical is on-the-job training.



Willard L. Newman Manager Packaging Development Service General Electric Co. Schenectady

The increasing complexity of the packaging job, compounded by the shortage of qualified replacement personnel, resulted in a new approach to packaging.

Too often, the on-the-job training of a new packaging man has been too short in duration, or conducted by personnel unqualified in packaging. The result of such a situation is a long and costly break-in period.

To overcome these problems, an indoctrination program was established at the General Electric Co.'s Central Packaging Laboratory. Under this program, when a new packaging man is put on the job, in addition to his on-the-job training, he is sent to the

Central Laboratory for an indoctrination course. This course, which is given by fully qualified packaging personnel, is slanted principally toward filling any gaps that may exist after his on-the-job training.

The new approach to package training is aimed not only at giving the new man a complete understanding of his immediate responsibilities, but is an effort to place in his hands a broad view of how he fits into the whole manufacturing process. He is exposed to the latest developments in packaging materials, equipment and processes, and has the opportunity to see what others are doing to solve problems similar to his. His indoctrination includes package design, appearance, customer appeal, testing, quality control, costs and cost reductions, handling, distribution, rules and regulations, and-perhaps most important-sources of assistance for problem solution. We believe that this new training concept not only gives the new man a greater appreciation of his own job and increases his understanding of the broad company concept, but it also tends to increase an employee's opportunity for advancement as well.



Frank A. Stenger
Director of Production Packaging
Ortho Pharmaceutical Corp.
Raritan, N. J.

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Commenting first on the training of production-line operators, we in the Packaging Dept. at Ortho developed two basic methods that have been successful.

For the first method, used to train an individual operator, we use two additional people. The specific steps are as follows:

1. Tour the new operator through the entire department and explain our purpose and how she, as an operator, fits into the entire picture.

2. Prior to actually sitting in on a production-line operation, we show her and allow her to handle all of the component parts and explain somewhat briefly the purpose of each and the importance of their fitting together correctly in the over-all program.

3. To this girl we assign a special inspector-trainer, who uses the long-established basic steps of training, i.e., tell, show, let her do the job and then follow-up. A second regular operator is also assigned to the same job to make up the difference in production. This second operator, we feel, is most important, as it relieves the tension that usually exists on the part of a new operator and allows her to slowly and correctly learn the methods, gradually building up her speed to full capacity. It should be noted that this second operator does not participate in the actual training of the operator as two trainers can be disastrous.

The second method we have used successfully is employed when training groups of new operators. In this instance we use the same technique described above, except that we do not use a second operator to make up the difference in production. We accomplish our purpose here by slowing down the production line to an extremely slow pace [Continued on page 192]

58

Planned Packaging moves merchandise

Why not your brand?

See the "wrap-around" end panels on this new carton? They give beer and other pack users all-important end panel identification—usually a premium feature—for the cost of regular open-end cartons. Important? Vital! Thirty-five per cent of all store pack displays show carton ends only!

The new "Contour-Pack," an exclusive, new design development by Packaging Corporation of America, offers better sales, lower package cost, faster packaging.

This is but one of countless ways in which Packaging Corporation of America's concept of Planned Packaging, implemented through integrated national facilities, produces better packaging . . . more sales. Whether your requirements are large or small, regional or national, we welcome the opportunity to help you.

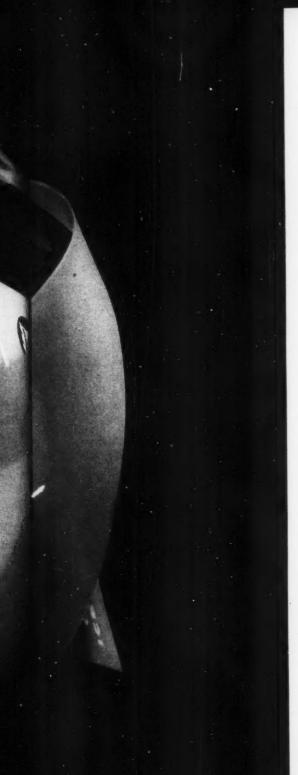


Packaging Corporation of America

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Are you masking your best salesman?

New Pollocote makes package design pop out

Masks should be worn by thieves or actors . . . not salesmen. Yet you may be robbing your package of its true sales potential by masking its personality behind a dull finish.

But now the Folding Carton Division of St. Regis* has created a new *semiplastic* coating called POLLOCOTE that adds a high luster finish to packages. Butter or berries, drumsticks or desserts all spring to appetizing life in full-blown, sparkling color. Whatever you package, it's beautifully protected, too; for POLLOCOTE—on both the outside and inside of the carton—guards the quality of your product so that it stays just as fresh and good as it looks.

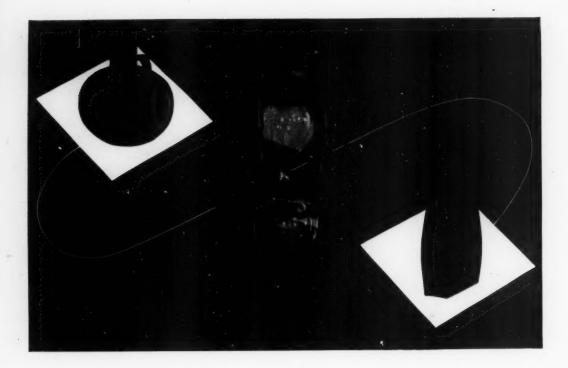
New developments in coatings, boxboard, carton construction and design have helped to establish St. Regis as a leader in the folding carton field. And all our services are at *your* service. We'd really like to tell you lots more about POLLOCOTE, and show you some samples that fairly sing out with high-fidelity reproduction. Just find the St. Regis plant below that's nearest you and drop us a line today, won't you?

Imaginative packaging means a lot in any business . . . and St. Regis folding cartons mean business.

FOLDING CARTON DIVISION

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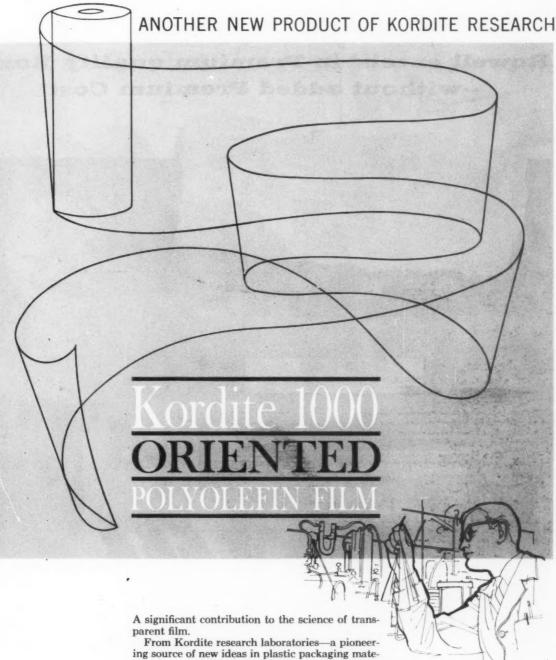
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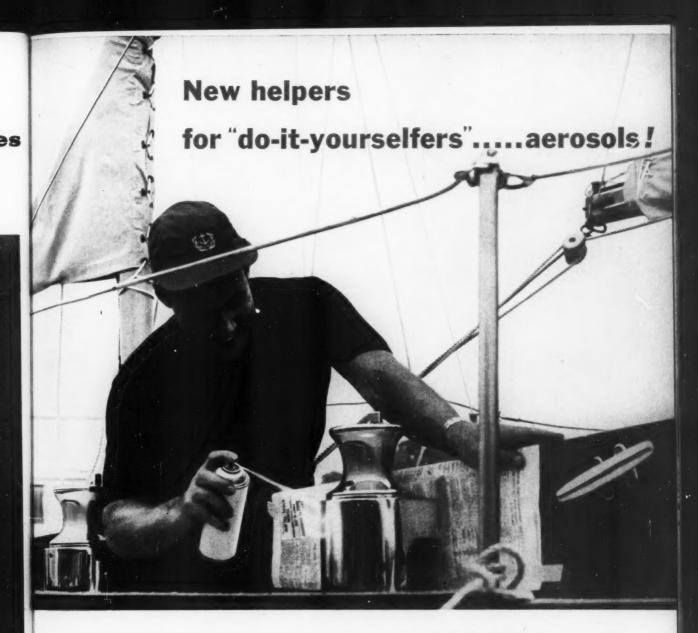
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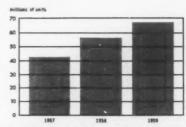


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BOSTITCH STAPLING HELPS INCREASE SALES 300 PER CENT





Walter P. Carlson, President of Carlson Products, Inc., is holding two cards designed to carry electric iron cord holders. The large card was used formerly but was eliminated in favor of the smaller one. Thanks to the suggestion of a Bostitch Economy Man, the cord holder is now bent to fit the smaller card and attached with six Bostitch staples. "The new card," says Mr. Carlson, "actually meant the difference between profit and loss because sales have increased 300 per cent since the card was reduced in size."

When you change to Bostitch, the benefits don't stop. In addition to increasing packaging speed, lowering costs, you can also get protection against pilferage or loss, savings in storage space, and savings in freight.

To get the benefits of Bostitch, call your Bostitch Economy Man, one of 350 who work out of 123 U. S. and Canadian cities. He's listed under "Bostitch" in your phone book.

Carlson Products finds Bostitch stapling fast and economical in other operations, too. Small parts are packaged in polyethylene bags and then attached to a card which holds an ironing board storage rack. When this air-driven bench stapler replaced hand staplers, production increased 200 per cent. 3600 of these small parts bags are carded every day.

The spring that holds an ironing board up against a door or other storage space is then fastened to the card with three Bostitch staples.

Fasten it better and faster with



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Pepperidge Farm Inc., Norwalk, Conn., uses Riegel Foldcote for its Golden Twist carton. Printed offset in two colors by The Warner Bros. Company, Packaging Division, Bridgeport, Conn.



Abstracts from foreign packaging magazines*

REPORT

GERMANY

European and U.S. wages compared

How much foreign workers earn is of significant importance to packagers operating in international markets, as well as to those competing with or selling foreign products at home. Some interesting light on this subject is presented in German American Trade News. Says this publication: "In the 50s the pattern of European wages experienced many changes. Wages went up and so did the cost of living. In France workers got 139% more toward the close of the decade than at the beginning. Swedish workers doubled their pay during the period. Germany's scored an advance of 91%; Great Britain's, 77%; while in the U.S. the average climbed by 51% from 1950 to 1959.

"However such nominal gains have to be judged against the rise in the cost of living. On the basis of such assess ment, the French worker actually ended with a real gain of 43%; his Swedish counterpart, with 33%. The German worker did best in this respect in improving his real wages 58%. Americans came away with 25% gain.

In terms of hours of work, the German worker was able to buy the following products:

to buy the following products.		In 1950 Hrs. Min.		In 1959 Hrs. Min.	
Bread (2.1 lbs.)		24		21	
Milk (1 gt.)		17		11	
Margarine (1/2 lb.)		29		14	
Tobacco	1	23		31	
Soap		20		8	
Dinner plate (china)		49		28	
Man's business suit	81	41	51	30	
Man's shoes	19	26	11	26	
Sport shirt	9	26	5	46	
Brandy (bottle)	5	34	2	37	
Butter	1	6		44	
Pork chops (1 lb.)	1	42	1	18	
Dress	21	22	11	13	

Depth studies in production technology

The November issue of Die Neue Verpackung (Germany) is devoted largely to comprehensive discussion of machinery problems. One article deals with the reasons for breakdowns in machine-operated manufacturing of flexible packages, based on a questionnaire revealing that many breakdowns could be avoided by a better knowledge of handling the packaging materials and the machinery. The article covers procedures for the feeding of materials, electrostatic loading, photo-electric cell control, gluing, heat sealing, closing and eliminating abrasion of printing ink.

Another article discusses weight control of finished packages and the admissible deviations in weight. Photo-electric control for counting, registration and releasing mechanical movement is described in another. A fourth article in the publication deals with the economic considerations in the purchasing of packaging machinery in relation to production requirements and investment.

The prominence of vending machines in Germany is indicated by an article which traces the history of automatic vending, starting with the "Schachtelautomat" in 1888, up to the increasing use of mechanical vending for dispensing of packaged hot meals in order to save labor in restaurants and in other types of mass-meal operations.

AUSTRALIA

'Canned' soft goods

A news brief in Canadian Packaging says that "canned" soft goods have received enthusiastic consumer acceptance in Australia, one firm doubling its production of packaged panties because sales increased so rapidly.

CANADA

The growing sense of nationalism

The rising tide of sentiment toward economic nationalism in Canada is reflected significantly in two editorials in Packaging Progress (Canada). "How Can We Get Around to Building Character and Personality into Canada" is the title of one, sponsoring a movement for the founding of a national school of design with due attention in its curricula to the very important area of package and container design. "Frankly, we wonder," the editorial reads, "how long a country such as Canada can try to get along without a School of Design. We wonder how long we are going to continue to sit before the masters of this art who obtain their education and training and win their reputations either elsewhere on this continent or in lands overseas. . . Such a school in time would result in making Canada competitive in world markets, if not in mass-produced goods, at least in goods thoroughly well designed and produced. It would give our young people the opportunity which is due them to win recognition for Canada as an outstanding personality in domestic and world markets.

The other editorial is headed: "A Postulate for Canada: Business and Identity." "Canada's quest for independence and economic security is a subject which has been much discussed and has evoked every reaction from sheer apathy . . . to blatant political explosion," it reads. "The subject nevertheless is of most vital nature to us all and will in fact determine the rate of our future growth and decline.

"A country's health is reflected in its people and in their culture; in the government's effectiveness in, and responsibility towards, providing every occasion for prosperity in its own economy and its people's economy. This general premise when applied to the current situation, where foreign industry is in fact absorbing a good percentage of our potential prosperity, is indeed one in which the government, as our instrument, must act and one in which we the people must take a positive and intelligent standpoint."

Canadian Packaging Show attracts 15,000

The pace of Canada's growing \$750 million annual packaging field was reflected strongly by the attendance of 14,812 at the Canadian National Packaging Exposition in Toronto, says Canadian Packaging. The 208 exhibitors went all out to display machinery and materials designed for Canadian production. The annual Package and Display Competition attracted 462 entries, 23 of which were singled out for awards. They revealed a high level of design tailored to the Canadian market and of quality package production.

CZECHOSLOVAKIA

Packaging for the protection of silver

The possibility of using packaging materials impregnated with Na-Cu-chlorophyllin for the protection of silver and

*For additional information, write: World Report Editor, Modern Packaging, 575 Madison Ave., New York 22.

World Report* [Continued]

silver-plated articles during their storage and shipment is mentioned in an abstract from a Czechoslovakian publication in Patra Packaging Abstracts (England). Examination of the destimulation effect of the chlorophyll derivative in an atmosphere containing gaseous hydrogen sulphide and tests of the protective effect upon silver and silver-plated items have shown that this compound is useful for the protection required, it is stated.

ENGLAND

Wider use of silicone-treated papers

The successful development of a non-migratory silicone coating for paper is leading to the wider adoption of silicone-coated materials for packaging applications where a non-stick paper is needed, according to Packaging Review (England). It was only four years ago that silicones were first applied to vegetable-parchment paper for commercial use in the baking trade, the article states. At that time, the silicone polymer tended to migrate after prolonged contact with a sticky material, with the result that the material stuck to the paper and was itself contaminated with the silicone. Further research resulted in the development of a new silicone which not only has the non-adhesiveness of the earlier product, but is also non-migratory.

The new silicone was offered to papermakers late in 1958, but—except for isolated uses—it is only now that silicone-coated papers are beginning to be fully accepted. One of the products made possible by the use of silicones is a self-adhesive sealing tape. This tape is based on paper instead of on plastics film. A very strong adhesive is used which in the ordinary way would stick the tape to itself as it is reeled. By coating the back with silicone polymer, the tape can be unrolled easily for use without any trace of sticking. Paper-based tape is cheaper than film tapes and, owing to the silicone coating, is easier to unroll, according to this article.

A further application of silicone-coated papers is for the production of paper sacks. Waxes, resins, bitumen and similar products may simply be melted and poured into the sack. They reportedly solidify without adhesion to the paper. Cast blocks of asphalt and other sticky materials such as rubber stock, toffee, etc., can be wrapped in treated paper without the slightest adhesion, even if the products melt in hot weather, it is said. Baking papers for self-adhesive labels are also silicone treated.

Flexible pack to replace sardine tins?

A packer of sardines writes to British Cellophane's publication Vision, saying that in an effort to eliminate the long-recognized difficult operation of opening sardine tins, it is considering giving the consumer a new convenience by packaging sardines (in oil) in transparent film. The material recommended for this possibility is nylon film whose properties, reportedly, make it suitable for packaging items of this nature—resistance to fats, oils and greases, an efficient barrier against odor transmission, tasteless, non-toxic, capable of being printed by standard methods and heat sealable (although the sealing temperature is high).

Tea crumpets—1960 style

On winter afternoons when sleet rattles unpleasantly against the casements, English families huddle by the fire and watch TV until Mum comes in with the teapot in one hand, a plate of butter-dripping crumpets in the other. "Years ago, the plate might have been heaped with home-made griddle cakes or oven-bottom biscuits," says British Cellophane's Vision. "Today, however, the griddle is as rare as a fireside

range. The family by the fireside will probably be eating the products of a factory many miles away, their freshness preserved by a transparent film package." So is packaging changing the living habits in Britain.

Nomenclature for cushioning

Helpful to all packers is a three-page glossary of cushioning terminology prepared from a special report by the British Institute of Packaging and published for the first time in the Institute of Packaging Journal. The data includes: general requirements for packaging supplies for the military services; an extract from the British Standards Glossary of Packaging Terms; definitions of basic elements of mechanics; definitions of terms in common technical use, with particular supplementary connotations in cushioning, and terms peculiar to cushioning and allied subjects.

What kind of men!

With men's lines becoming a significant segment of the toiletries market, it should be possible for the practiced wish-fulfillment expert to spot the most promising packaging thame, comments Sales Appeal and Packaging Technology (England) in its "The Ground Floor" department. "But so far this column has to confess itself beaten," the text reads. "The present speculation was sparked off by a package for Avon Cosmetics hair preparation, 'Attention,' with its illustration of a guardsman in full dress—his own hair, of course, completely hidden, though the bearskin is certainly in enviable condition! Presumably the real appeal lies in all the associations conjured up by this archetypal figure which appears also on the striking range of Pinaud packs. You can take your choice—grooming or glory, the pageantry of the capital and the sophistication of Guardsofficers-about-town, in fact the entire British heritage including Christopher Robin.

"A glance at competing lines reveals four recurrent themes often overlapping: aristocratic, equestrian, nautical and historical. It is noticeable that the more democratic our society becomes, the more potent becomes the appeal of an elite—and to the old type of elite. The middle-class citizen is delighted to be upgraded to 'His Excellency,' though colonial governors are going out of business every month and even ambassadors are not what they were. Ardent republicans are not proof against the flattery of Prince Gourielli's attentions and the aristocratic is blended with the athletic in the symbol of a polo player on the Lentheric pack.

"Arden for Men uses an equestrian motif. Corvette—old timers in the field here—stick to the maritime past, which at least one brand from across the Atlantic, Old Spice, also finds effective. Mainly for Men looks for historical associations on land, using a silhouette of a Regency buck...

"So far, a clear picture of the 1960s man as seen by himself has failed to emerge from our researches. Indeed, having got so far, we have been pulled up short by the thought that since a large volume of these products are bought as gifts, it may be we are looking for a picture of the 1960s man as seen by wife or girl friend; and that is a theme for a fortune teller, not a packaging journalist."

ITALY

New bag of sterilized polyethylene

The dairy industry is being aided by a new type of sterilized bag for the sampling of milk. According to Notiziario dell' Instituto Italiano Imballaggio (Italy), the characteristic of this package is such that it reduces the cost of sampling by 50% by eliminating the breakage and continual cleaning of glass. The bag is formed of a piece of polyethylene sealed at both ends in a sterile manner. Two threads sealed inside one end permit opening without touching the sterile edge. The seal is reported to be completely efficient for holding liquid. It is believed that the bag has possibilities for frozen foods and cosmetic products.

*For additional information, write: World Report Editor, Modean Packaging, 575 Madison Ave., New York 22.



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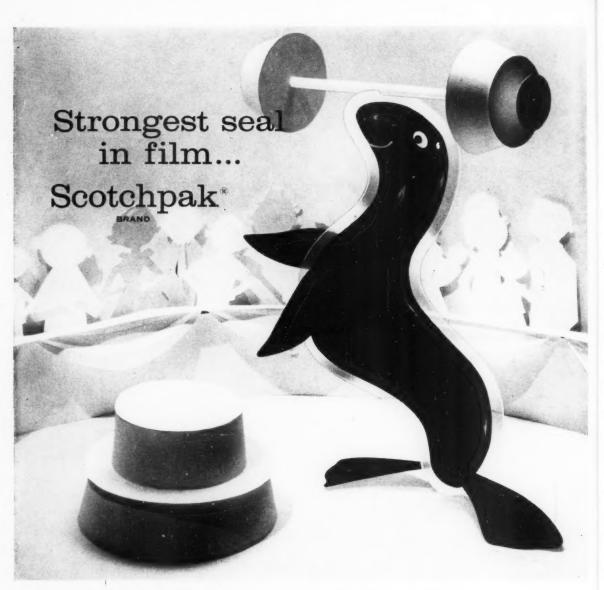
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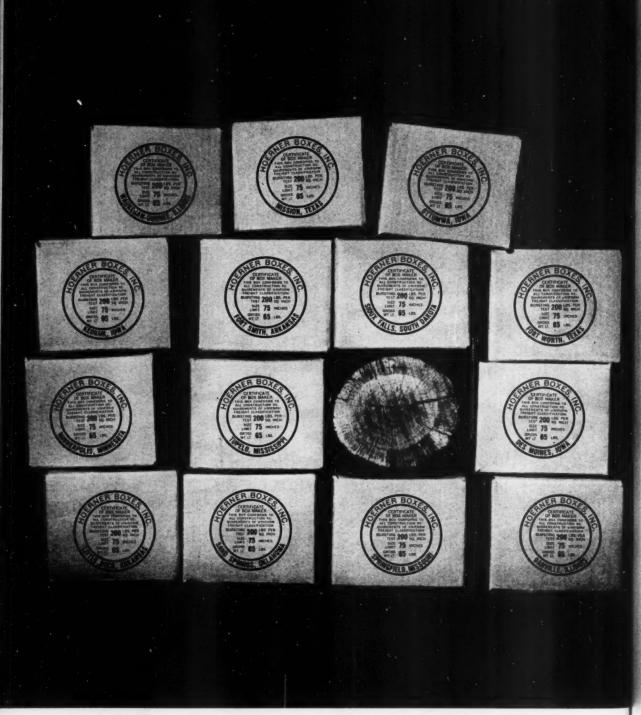
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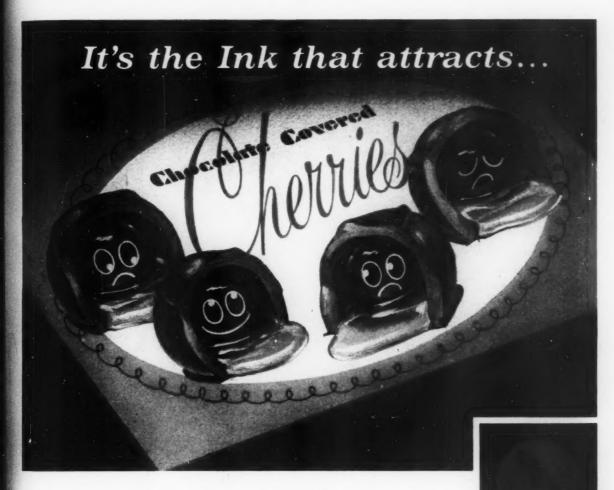
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EDITORIAL MEMO

Built-in inconvenience

E vidence is growing that the matter of convenience is almost the decisive factor in packaging today, when so many competitive products are fighting on otherwise equal terms. This has been a subject of discussion in several recent meetings of trade associations and industry groups, and our November article "Convenience Is King" has received wide notice and approval.

But what exactly is convenience? Too often, it seems to us, the definition is being confined to extra added gadgets such as pour spouts, tear tapes and metering closures. Valuable as these special features may be in upgrading a product, it would certainly be a great mistake simply to add them on to a package that is basically inconvenient to start with.

It may surpise you to learn that some of the oldest and biggest brands in packaging have a high quotient of annoyance for many housewives because of basic inconvenience that has crept into the package. It surprised us when Howard Trumbull called the roll in a recent address before members of the Sales Executives Club of New York. He cited:

The Kellogg's cereal box that is too tall to fit kitchen shelves and so narrow that it tips over easily. The Bisquick box, the Argo cornstarch box and the Minute Tapioca box with their glued-down tops that are hard to open, hard to pour from and hard to reclose. The Quaker Oats box whose round shape takes up too much space, spills easily and whose paperboard may flavor the contents. The Domino brown-sugar box whose contents are "inclined to turn to stone after the first opening." The General Mills Cheerio box whose zip-open top leaves two flaps that don't easily reclose without a gap in the middle. The coffee can that the housewife must crank open with a key and which is so completely filled that it spills when opened. Pet's and Carnation's flat, rimless-top cans that defv opening with either a wall-type or "beer-can" opener. The Crisco shortening can whose lid likes to spring back open after reclosure. The Swift's ham tin that can't be opened with a standard opener and whose sharp metal edges make it difficult to remove the product. The Hershey's chocolate and Calumet bakingpowder containers with their set-in lids. The pry-off lids on glass containers. The curved sides on jelly and mustard jars that make it difficult to remove the last of the contents. Colgate's toothpaste aerosol can, which is regarded as hard to use.

The criticisms are not ours and they are not Mr. Trumbull's. They come from the 75,000 homemakers across the country who are panel members of his National Family Opinion, Inc. They will be shared by suppliers who have tried and failed to sell package improvement.

All of these are successful products. How much more successful would they be if they could eliminate from the containers the factors of annoyance and turn them to factors of positive convenience?

The Editors

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MODERN PACKAGING

FEBRUARY 1961 Vol. 34 No. 6 | THE COMPLETE AUTHORITY OF PACKAGING

New day in hardware

Packaging advances at last
to meet the requirements
of modern retailing
and all packagers
can take a share of the credit,
for hardware is building
on the best ideas from many industries

ardware packaging is on the march. The industry long considered most backward is beginning to catch up with modern retailing needs. It is catching up by catching on—and the way it is solving its own problems by picking up ideas from other industries provides a valuable lesson for all packagers.

For example: The weekend handyman who shops his local hardware store for a circular saw blade is likely today to find the better brands marketed in any one of several new types of convenience packages like those in which he buys other products.

There is a colorfully designed "record-album" set-up box that encourages him to buy several types of blades at once and use the carton for blade storage. There is an easy-opening, book-like folding carton perforated so that he may buy one or more different blades, each in its own paper sleeve—another record-album adaptation. And there is an economical new skin package offering complete blade visibility and protection from moisture—a package application already familiar to purchasers



Packaging transition is moving hardware items out of open boxes and shippers to skin packs, blister packs and other carded or tagged merchandise for effective counter and pegboard display. The weekend handyman has been transformed into a self-service shopper, though the dealer is still available for advice.

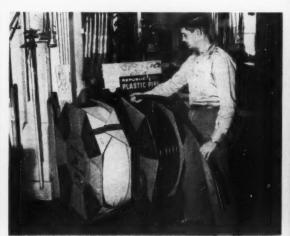


Departmentalized display of packaged hardware not only concentrates one manufacturer's brands, but also catalogs them by type and use. Stanley Works transferred 174 basic items out of kraft envelopes into visual packages and grouped them into 22 related-product categories, providing the retailer with a header sign for each group. Sales results are said to be "fabulous."

TECHNIQUES TO MOVE HARDWARE



Full selection of blister-packed assortment maintains brand identity, but varies color scheme for identification of different padlocks.



Dispenser permits hardware dealer to maintain orderly stock while measuring a coiled product to the customer's need.

of everything from food to soft goods to hardware.

Such awareness of the retailer's problems of product protection, self-selection and multiple selfing is part of the evidence that hardware is today, at last, making dramatic packaging progress.

There are dozens of other examples of its profitable borrowing of packaging ideas:

- From cigarettes they have applied flip-top opening to a "push-up" plastic blister that permits examination of paint-brush bristles (Baltimore Brush).
- From toiletries they have borrowed the idea of a plastic squeeze tube for oils and greases, using anlined high-density polyethylene or vinyl for impermeability (Southwest Grease & Oil).
- From fruit and candy they have learned the economy of nesting light bulbs in vacuum-formed, low-cost polyvinyl chloride (Westinghouse).
- From beverage packaging they have adopted the convenience of carry handles and added them to cartons and bags for many heavy products. From the same packagers they have learned the salesmaking possibilities in multipacking everything from flashlight batteries to caster cups.
- From the packaging of granulated foods they have borrowed the pour-spout idea for fungicides (Ortho) and the shaker top for seed (Asgrow).
- From shampoo packagers comes the individual easy-opening, non-messy polyester film pouch for paint pigments (Bennett's). And mixed paints in aerosols are tamperproof with cellulose bands used by liquor packagers (Plasti-Kote).
- From the detergent industry evolves the use of

the new semi-rigid high-density polyethylene containers for many of the household chemical products that are sold in hardware stores.

Even the dating of milk and photographic film has provided an idea for the dating of light bulbs guaranteed to last two years (Penetray). And highfashion, full-color photography and graphics in carton surface designs are pushing a great many more hardware items into the gift class.

Despite these advances, there is still a great deal of mediocre packaging of hardware products and some packages are inadequate or really bad.

But the surge of attention now being paid to hardware packaging after years of relative neglect is clearly and strongly evident:

- The 1961 National Hardware Show in Chicago, Oct. 2-6, will include for the first time a special packaging exposition with prize awards.
- The Packaging Institute's Hardware Packaging Committee is about to bring out a series of checklists offering "how-to-do-it" information and advice on the main types of hardware packages.
- Judges at the 1960 Folding Paper Box Assn. Competition gave hardware entries a total of eight awards—far more than usual—and commended the industry on the packaging progress it has made.

The motivation

The great impetus to the packaging renascence for hardware has been, of course, the changing needs of the hardware retailer. Self service as supermarkets practice it is not right for hardware stores,



Built-in display is perforated around each thermometer to convert individual items to hang-up units.



Tray packing converts colorful tear-strip shippers to display units for hardware stores.



Specialty item is blister packed and displayed by Wiss to increase colume in hardware stores.



New container gaining in hardware stores is rigid high-density-polyethylene bottle, here used as the package for 26 oz. of floor wax.



Carry handle and highly legible coral-and-black surface design lend convenience and strong brand identity to patching material in corrugated box.

PHOTO COURTESY HINDE & DAUCH



hardware men believe, because it is too cold and impersonal. It has taken hardware retailers a long time to work out a suitable adaptation of self service and for hardware manufacturers to follow up with packaging that will do the best selling job.

The retail market today consists of more than 34,000 independent hardware outlets in the U.S. This number has been dropping steadily and is almost 1,000 below that of 10 years ago, although the independents' total sales volume (close to \$3 billion annually) is rising gradually. Simultaneously, there has been a tremendous increase in hardware and houseware sales by the supermarkets as well as by the variety-store chains.

In 1959, variety stores sold \$354 million worth of hardware, according to Variety Store Merchandiser. In 1958, Hardware Age reports, 58% of all supermarkets handled hardware, averaging 75 items each. The average hardware store, however, carries from 12,000 to 15,000 different items.

The total market outlook for better-packaged hardware is promising. The brightest prospect for the country's hardware dealers is in the population changes that are converting young men and women into new-home owners and potential big buyers of home-improvement hardware. New households are increasing at a rate of more than 900,000 per year.

This is the big new market for everything from nails to appliances and it is a buying group brought up on convenience packaging and self-service shopping. One bit of proof that hardware retailers recognize this fact is the finding by Hardware Age that 71% of the dealers who have recently remodeled their stores now provide self-selection for customers who want it, with more up-front merchandising, more grouping of lines by departments and less dependence on stockrooms, more economical use of display areas, less waste space and less merchandise hidden away in cupboards, drawers and bins. Self service as such ranges from single departments to stores that are veritable hardware supermarkets.

Unlike most merchandise sold in supermarkets, however, the bulk of hardware items do not get heavy advertising support. They sell for two main reasons: (1) the retailer's recommendation or (2) the package's appeal. With today's minimal sales staffs, the package must usually do the whole selling job. Suddenly the package has become almost more important than the product itself.

Although the average hardware retailer still clings

Versatility of blister packs accommodates such diverse products as can openers and cabinet hardware. Amerock twin package (right) is perforated for single or double sale. to some degree of personal selling contact with his customers, he is now strongly aware of what wellpackaged goods can do for impulse sales—and how much impulse sales contribute to his total volume.

The customer is drawn into the store by the need for a given item. He still expects counsel from the dealer though his purchase may be no more than a dime's worth of wood screws. What counts on the balance sheet is the package that attracts him to other items and compels him to buy more than he planned. So the good hardware package must be equally suitable for clerk or self-selection selling. It must be attractive, protective and informative.

Walk into even a moderately well-managed hardware store today and you notice that the old welter of dusty boxes and barrels, if not altogether gone, is at least much better organized. More likely you will face two or three solid walls of pegboard, dotted with displays. Most are imaginatively designed to enhance the packages they display. There are blister packs and other visual types of packaging in abundance. Aerosols, ingenious dispenser packs and gravity-dispensing displays, multipacks and all the other devices of modern packaging are evident.

The rivalry for packaging superiority is intense and even more obvious than in other product categories because of the need to catch up quickly. It is heightened by an acute packaging cost consciousness. Historically there has never been much room in hardware manufacturers' budgets for other than basic packaging. Today they must find room—and usually they absorb the added cost themselves. Hardware retailers want the newest in packaging, but they don't want to pay more for it.

The broad trends

There are several broad trends in hardware packaging today. Judging from surveys and interviews with many leading manufacturers and retailers, these seem to be the important ones to watch:

Display/package tie-ins are on the increase, partly because the hardware retailer has always been strongly "deal conscious." Usually special displays are offered by manufacturers free or at nominal cost with purchase of a given number of items.

Quality of these displays varies, but the good ones sell. The good display (1) makes an appropriate background for the individual packages, (2) often carries sales points for which the package has no room, (3) keeps the grouping neat, (4) alerts the retailer when stocks are getting low.

Stanley's "Hardware Center" is one of the largest and most elaborate of these special displays. After three years of research, the company selected 174 basic items, took them out of kraft envelopes and repackaged each of them in visual packages to be



Gift packaging now wraps such hardware-store items as these Ekco kitchen utensils in two-color photograph-covered set-up box.

hung on simple wire display fixtures or pegboard.

The 174 packaged items are broken down into 22 related product groupings, each with its own header sign. A dominant "Stanley Hardware Center" sign ties the whole display together. Sales results in the year since the new packages and display were introduced are reported as "fabulous."

Another effective device is the display built into the package. Taylor Instrument, among others, is using this successfully. Taylor offers dealers a set of eight varicolored room thermometers mounted in a folding chipboard box which becomes a self display when the flaps are folded back and tucked in. The chipboard is perforated around each thermometer so individual items may be peg mounted.

In many ways the popular blister or skin pack seems tailor made for packaging hardware items. It is fairly inexpensive, gives full visibility, offers a good amount of size flexibility. There has been an enormous increase recently in blister packaging of hardware items, from door knobs to can openers. The average hardware store now carries literally thousands of blister- or skin-packed items.

The National Retail Hardware Assn. concedes the value of product visibility. However, says NRHA, it may often be less salesworthy than a well-done illustration of the product in use. Opaque but well-printed packaging materials may well gain in favor for some hardware items when packagers learn how to use them more effectively.

But right now visibility is still considered a prime requisite. J. Wiss & Son, noted for its packaging know-how, is deliberately sacrificing one market for another with its new blister pack for garden shears. Garden shears are primarily a gift item and have always been cartoned. Wiss [Continued on page 175]

The first

Solid stream of cream-type hair dressing is dispensed by Beecham's new free-piston aerosol which outwardly resembles conventional acrosol. However, an internal plastic diaphragm completely separates product from propellant. Gas is injected through an aperture in the concave base of the can.





Free-piston principle is detailed in this crosssectional view, which also shows how rubber plug is fitted in the base. Diaphragm, of medium-density polyethylene, moves upward under pressure of bottomloaded propellant until all of product is discharged from can. Valve is conventional, except that the bore in the spout is made as large as possible to prevent the occurrence of emulsion breakdown.

Complete separation of product and propellant and virtually complete expulsion of a viscous product—both long-sought goals in aerosol packaging are achieved with a new free-piston, aluminum aerosol can* which is currently making its commercial debut as a package for Brylcreem, a cream-type hair dressing of heavy consistency.

While a piston-type aerosol has long been a subject of discussion and development, this is the first actually to take a product to market.

The Brylcreem aerosol uses a dome-shaped floating diaphragm of medium-density polyethylene and requires no dip tube. This type of aerosol is capable of true solid-stream dispensing of either food or non-food products with various viscosities. It is likely to be significant in the growth of aerosol packaging because of three important features:

1. It prevents chemical interactions between product and propellant that could change either product flavor or form, particularly in delicate formulations. This may induce the Food & Drug Administration to permit the use of fluorinated hydrocarbon propellants for food products as readily as nitrogen and carbon dioxide are used now.

It prevents physical mixing of the product and propellant, which in conventional aerosols results in forceful expansion at the discharge spout and leads to spraying or foaming of the product.

3. It permits almost complete—about 99%—dis-

^{*}See "The Status of Food Aerosols," this issue, p. 121.

free piston aerosol

It separates propellant from product and assures
virtually complete expulsion of contents; as pioneered by Brylcreem,
it opens new possibilities for many viscous products

pensing of the product, which no conventional type of aerosol can match.

Brylcreem is produced by Beecham Products, Inc., Clifton, N. J. (275 employees).

While sprays or foams are desirable for many products, neither would suit Beecham, whose cream hair dressing has been merchandised for many years in collapsible tubes under the slogan, "A little dab'll do ya." To dispense a little dab from an aerosol, without product reformulation, was impossible until the development of the new free-piston system, according to company spokesman. The product formulation of Brylcreem in the new aerosol is exactly the same as that in the tube.

Outwardly similar to conventional tinplate aerosols, the new two-piece, impact-extruded aluminum aerosol can is unique in construction and loading. The differences are inside, where the piston is located, and on the double-seamed bottom, through which the propellant is loaded. The new aerosol reportedly costs slightly more than a conventional one.

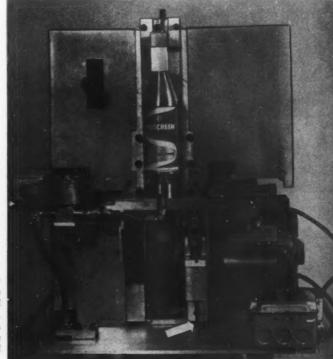
The thin-wall piston, resembling a diving bell in shape, is constructed from medium-density polyethylene that is stiff, yet flexible, and resists stress cracking. It hugs the interior wall of the can, but is free to move up and down within the container as the pressure on either side is changed.

Loaded through the top of the can before the valve is crimped into place, the product rests on top of the piston. Nitrogen gas at 90 p.s.i.g. is then introduced under the piston through a small hole in the bottom of the can, which is immediately closed with a small plug of synthetic rubber. The

pressure of this gas further presses the walls of the piston against the can, reportedly providing an effective "seal" that prevents the possibility of any mixing of product and propellant.

The top of the piston is shaped to conform closely to the interior contours of the top of the can and the valve, thus permitting expulsion of about 99% of the product by the end [Continued on page 168]

SUPPLIES AND SERVICES: Aluminum floating-piston aerosol cans and bottom gassing machine by American Can's Bradley-Sun Div., Hillside, N. J. Valves and actuators by Precision Valve Corp., 700 Nepperhan Ave., Yonkers 3, N. Y.



Gassing and plugging unit for commercial machine (here set up for hand-operated pilot operation) introduces gas through spring-loaded can lifter and aperture in base of can after vacuum has removed air. Roll-fed rubber strip for plugs (arrow) passes through knurled rollers, then up through can lifter, where it is automatically cut and inserted in the can. Cone-shaped device above the can merely holds aerosols in position.

Compact bottling set-up employs quick-change unscrambler (foreground) and automatic tablet counter (center) to pace operation, but uses two operators (background) for cottoning and capping to cut costs.

Low-cost

while current mechanical developments would seem to indicate that the race goes always to the swift, many small packagers who need wide product variety but low volume require versatility more than speed of production to achieve over-all efficiency in their packaging operations.

One new installation that points up this important production fact is located at Physicians Products Co., Inc., Petersburg, Va., (30 employees). This firm's whole plant could be dropped into the anteroom of many giant manufacturing firms—yet on one low-cost, quick-change line, Physicians Products packs 23 different ethical drug products of many shapes in bottles of five different sizes, or in sample packs, for distribution throughout the Southeast. This operation is so efficient, it is one that many larger firms might envy.

The new line that makes this operation possible contains no dramatic high-speed equipment, but it has been thoughtfully assembled from what this company believes are among the most compatible and flexible packaging machines available. Combining automatic, semi-automatic and hand operations, the compact, U-shaped facility costs less than \$6,000 and hits an average output of about 20 units per minute with from five to seven operators.

In action, bottles of 30-, 50-, 75-, 100- or 160-cc. size are unscrambled on a rotary-table feeder that aligns the containers on a link-type track that runs down the in-put leg of the U. Change-over between bottle sizes necessitates only the adjustment of a single, oscillating feed wheel. The bottles are filled by a rotary dial counter that by a simple change of dials handles compressed or coated tablets, or gelatine capsules of different types ranging in thickness from ½ to ¾ in. And while the dials contain the right number of holes to correspond with the fill count for different bottles and products, special sample containers can be handled by blanking off some of the holes with pressure-sensitive tape. Bottles of five different sizes are accommodated simply

packaging line

A small drug packer shows how to achieve versatility and efficiency by a canny combination of mechanical and hand techniques

by raising or lowering the entire head of the machine.

Although cottoning is performed by hand, the hand-capping operation is assisted by a mechanical friction wheel, driven through a flexible cable. Turning onto the base of the U-line, the closed bottles are accumulated on a rotary table, then are labeled on a semi-automatic unit, which is the only second-hand piece of machinery in the line. The output leg of the packaging line is a table conveyor that permits hand application of cellulose bands, display packaging and final casing in shippers.

Two tricks of selection and arrangement contribute to the efficient operation and balance between mechanization and hand labor on this line.

First, automatic and semi-automatic units have been employed only where they are obtainable at low cost and are both flexible and readily changed over. Hand labor has been retained where automation would be very expensive or would require elaborate change parts. The time required for change-over takes a maximum of only 30 min. for the extreme shift from 30- to 160-cc.-size bottles.

Second, the line layout has been arranged to minimize labor where possible. For example, the points of the U are almost closed, leaving only enough space for access to the interior of the line. Thus, when products are run that do not require either banding or display packaging, one operator can handle both the feed of empty bottles and the casing of the finished products, thereby holding the line personnel required to only five men.

With this set-up, the line is said to be efficient for either long or short runs. The company expects to add an automatic cottoning machine soon, which will result in further reducing hand labor.

SUPPLIES AND SERVICES: Unscrambler, accumulator and packing table by Island Equipment Corp., Hialiah, Fla. Model T403 tablet and capsule counter by Cozzoli Machine Co., Plainfield, N. J. Friction capper by R. G. Haskins Co., 2657 W. Harrison St., Chicago. "Pony" labeler by New Jersey Machine Corp., Hoboken, N. J.

U-shaped line puts bottle-feed unit and case-packing table in close proximity to enable one operator to handle both of these jobs for most products. Special packaging for displays and shipping is done on conveyor table (bottom).



Gastight coffee carton

Three-ply tubular liner will hold a positive pressure of inert gas and provides a package for Swedish coffee grinder with shelf life comparable to that of a key-opening metal can



Snip-open liner in hermetic carton for pre-ground coffee illustrates convenience of this Swedish package, which is low in cost and makes maximum use of space. Heat-sealed tubular liner of laminated paper-foil-polyethylene holds a positive pressure of inert gas, giving the product long shelf life.

Gastight cartoning—the object of much current research in this country—has reportedly been achieved in Sweden with a special web-lined paper-board container for pre-ground coffee that is not only virtually impervious to the transmission of gasses, but saves 15% in packaging cost and takes up one-third less space in storage and shipping than a comparable metal key-opening can. Shelf life is said to be several months.

Tinplate is costly in Scandinavia, which gives this package a considerable advantage there.

The principle of a carton lined with a tubular and flexible laminate is not new,* but a liner so impervious that it will even retain a positive pressure of inert gas is a further advance. In this instance, the laminate is paper, foil and polyethylene of a type used in the U.S. to pouch package dehydrated foods. First commercial use of the new carton is by AB Hakon Swenson, Vasteras, Sweden, for ½-lb. coffee packages. This product in any volume poses a difficult problem of barrier protection.

The packaging operation is expedited by a new automatic packaging machine, capable of speeds up to 60 cartons per minute, that sets up and fills the pre-lined carton, exhausts the air and replaces it with a positive pressure of carbon dioxide and then heat seals the inner liner in a rotary unit equipped with vacuum chambers.

The package, as received by Swenson, is a single unit consisting of two elements: the carton and the attached liner. The carton is a locking-tab structure of 22-point bleached sulphate board, printed in two colors. The tube-like liner, which is attached to the inner surface of the carton with an adhesive, is

^{*}See "Siftproof Folding Carton," MODERN PACKAGING, Oct., 1957, p. 129.

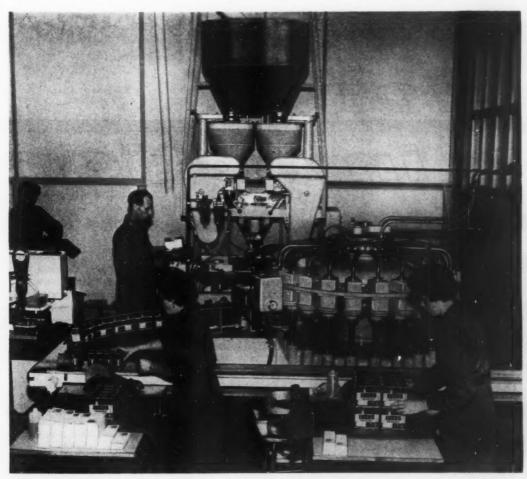
formed from a triple lamination of 30-lb, bleached sulphate paper and 0.00035-in, foil coated with 2 mils of polyethylene. The liner extends beyond the end flaps of the carton so it can be heat sealed.

In the two-part packaging machine, the lined cartons are opened and carried in chain-mounted pockets. The bottom of the liner is heat sealed and folded, and the flaps are locked. Filling is accomplished in a net weigher, equipped with an augertype feed. The top portion of the liner is first folded in gussets, but not sealed. The cartons then pass into a rotary device containing 24 vacuum chambers that remove the air from the cartons through most of the 360-deg. cycle. During the last stage, the vacuum valve is reversed and carbon dioxide gas is introduced into the package to a slight positive pressure. The liner is immediately heat sealed to preserve this

inert atmosphere and the carton is dropped from the vacuum unit, where the liner is subsequently folded and tucked inside the locking tabs. The technique reportedly reduces oxygen content of the atmosphere inside the package to 0.4-0.5%.

While this cartoning technique is of immediate interest to low-volume packagers of sensitive products, the present low packaging speed will be a drawback to large-volume applications. However, lined cartons of this type have been run (without vacuum or gas attachments) on U.S.-made equipment at speeds approaching 200 per minute and it may well be possible to adapt such machinery to this new high-barrier container.

SUPPLIES AND SERVICES: "Hermic XF" carton and "Hermivac" packaging machine by Esselte-Forpackning AB, Norrkoping, Sweden.



Automatic machines set up the carton and fill it with coffee (center, rear), then evacuate the air and replace it with inert carbon dioxide gas (right). The rotary vacuum-gasser has 24 chambers and handles up to 60 cartons per minute.

Cookie dough in a convenient polyethylene squeeze tube



The polyethylene squeeze-to-use tube, which has made relatively little impact on the food field in this country, has been adopted as a dispensing container for ready-to-bake refrigerator cookie dough by Cookietime Products, a division of Goodhue's, Worcester, Mass. This application suggests a vast potential for packaging many viscous and semi-viscous food products in convenient plastic squeeze containers.

An innovation in Cookietime's new package is a starshaped dispensing orifice. When the cookie dough is squeezed out of the tube, says the company, the ribbon of product assumes the same distinctive shape that was formerly achieved in home baking by using the old-fashioned startube and pastry-bag method.

Four types of ready-to-bake cookie dough are being marketed by the packager. They are: Chocolate Crunch, Almond Macaroon, Golden and Rainbow. Each variety is clearly identified on a color-coded panel printed on the white tube. A flat-topped, circular molded-polyethylene closure affords a sturdy base that enables the tube to stand up for display or storage. Polyethylene squeeze tubes by Bradley-Sun Div., American Can, Hillside, NJ.

Ideas im Action

Sun Dew goes to supermarkets in stronger design 'armor'



A package design that does a good selling job in areas of little competition may not fare so well when the product is arrayed against a host of competitors in the nation's supermarkets. That's why the Sun Dew Corp. gave top priority to strong new surface design when it broadened the market for a line of soft drinks in waxed-paper containers to include self-selection retail stores. Formerly, these beverages were sold only by concessionaires in stadiums, parks and other amusement areas, where "self-on-sight" package design is not a primary merchandising factor.

In the redesign, greater emphasis has been given to the packager's logo and shining-sun trademark, each of which appears prominently on all four side panels of half-pint, pint and new quart cartons and on opposite sides of single-drink conical containers. Copy has been minimized to give the packages a clean, uncluttered look. In addition, background colors have been strengthened for shelf appeal and containers are color coded to help identify the various Sun Dew flavors. Design by E. Leonard Koppel Associates, 284 Fifth Ave., New York 1. Containers by American Can, 100 Park Ave., New York 17, and Sealright Co., Fulton, N.Y.

Maximum exposure for the non-commercial look

Introducing famous Italian Balm hand lotion in a completely restyled "boudoir bottle," the Campana Corp. discards its former folding carton to give maximum point-of-purchase exposure to the graceful new glass container. However, carry-over identification during the introductory marketing period is achieved by a die-cut paperboard neck tag which is a miniature replica of the familiar checkered-design carton. In such a simple manner has Campana solved the double-edged problem of how best to promote a brand-new package while maintaining a strong association with the past. Italian Balm has been on the market since 1926.

The reverse side of the neck tag carries the message: "We've had our face lifted. Like our new look? No carton—but the same fine original Italian Balm." The tag is attached to the bottle by a loop of cord.

The slender, broad-based new bottle (in 9, 4 and 2-oz. sizes) incorporates the features of easy hand gripping and safe stand-up. A gold-colored, foil-paper label which conforms to the general shape of the bottle accentuates the non-commercial appearance. Glass bottles and white urea closures by Owens-Illinois, Toledo 1.

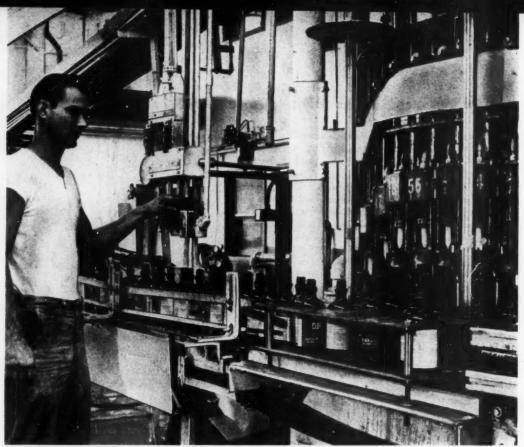


Pepsi-Cola tests lightweight, throw-away glass bottles

The Pepsi-Cola Co., one of the biggest names in the soft-drink industry, is investigating the potentials of disposable lightweight glass bottles via a five-city market test. In a bid to broaden its share of market, the company is offering Pepsi-Cola (12- and 16-oz. sizes) in convenient no-deposit, no-return bottles as an adjunct to its normal business in glass deposit bottles.

Interestingly, the retail price for a carry carton of six throw-away bottles averages 18 cents higher than the cost of a six-pack of deposit-return containers, exclusive of deposit (12 cents per six-pack). Since both types of bottles are being sold side by side in test-city stores, Pepsi-Cola expects to achieve a definitive answer to the question: Are consumers willing to pay a six-cents-per-carton premium for convenience? The disposability feature is prominently identified on the carry cartons in which the throw-away bottles are sold. All four side panels and both sides of the handle carry the legend "no deposit, no return" in bold lettering. It is also blown into the neck of the bottle and imprinted on the crown cap. Otherwise, the new bottle is virtually indistinguishable from the conventional Pepsi bottle.





Simple filler for ultra-fast bottling of liquid bleach product at Clorox utilizes plastic spouts instead of complex values on the 60-head turntable (right) and staggers bottles on in-feed track (left) to permit easy indexing on the machine.

New speed for big bottles

Using a new vacuum filler with simplified mechanical action and rapid change-over, Clorox now has capacity for 100 gallons per minute and can shift to 500 pints per minute

been goals for packagers running large bottles on automatic equipment. Now it appears that a big stride has been made in the filling portion of such a line with the development of a versatile new rotary unit that handles everything from pints to gallons at a potential speed of 500 or more bottles per minute for the smaller sizes and upwards of 100 per minute for the largest containers.

Installed at the Houston, Tex., plant of the Clorox Co., major bleach manufacturer, the new unit has already boosted output more than 25% during the run-in period, achieving 415 bottles per minute on

the smaller sizes and nearly 100 per minute on the big bottles. It can be changed from pints to quarts, half-gallons or gallons in about 30 minutes.

Of equal interest are several other mechanical innovations in this machine that (1) simplify and smooth bottle in-feed to prevent breakage, (2) enable fast handling of all types of liquid products through the more efficient use of vacuum and (3) prevent corrosion of delicate machine parts by locating these mechanisms above and out of the reach of such strong products as bleach.

In view of the current general interest in test marketing of Clorox and other liquid bleaches in plastic bottles.* it is important to note that the manufacturer of this filler claims the machine can be equipped for either vacuum or vacuum-pressure filling and requires only a small adjustment of the feed stars to handle plastic containers.

The machine at Clorox has 60 filling valves, all of which are used on the smaller sizes. However, when running gallons and half gallons, every other valve is blanked off with a rubber cap due to space limitations on the filling turret. Even with this arrangement, output of large sizes is far faster than was previously achieved by Clorox.

Bottle feed

A very simple bottle-feed device eliminates mechanisms that need careful timing and adjustment, such as screw feeds and multiple star wheels. Bottles enter a section of conveyor track where the two guide rails are spaced apart from 1½ to 1½ times the diameter of the bottle. As the bottles back up in the line, they are staggered, touching either the right or left rail. When enough bottles are in position (six for gallons or 20 for pints), they activate an electrical switch that starts the filler. The bottles pass directly into the main star wheel on the filling turret, the staggered positions of the bottles preventing a container from being caught on dead center between points on the star and the guide rail.

The backlog of bottles in the feed section prevents containers from tipping over and insures the positioning of a bottle in each filler pocket during operation, thus utilizing the vacuum-filling system most efficiently during high-speed operation.

Vacuum filling

Several unusual features of the vacuum-filling system contribute to the high capacity of this filler. For instance, while standard dual filling tubes are employed—each containing an inner vacuum tube and an external product carrier—these filling devices have no valve mechanisms, since the filler runs only when bottles are on the machine and valves are not needed to control product flow.

When the filler connects with a bottle, the vacuum system draws the liquid bleach directly from a floor-level supply tank to the bottle by means of a polyvinyl chloride tube. Overflow is pulled through the vacuum tube to a conventional two-stage separator in the center of the filler. Overflow returns to the supply tank through the separator's lower section by means of automatic valves that permit gravity flow under both vacuum and atmospheric pressures.

The real secret of high-volume output, however, is that air and liquid are completely separated internally in the vacuum chamber, permitting the use of a vacuum line of large diameter (1½ in.) between the chamber and the vacuum pump. By eliminating external liquid-air separators and surging in the vacuum line, this system is said to operate efficiently at only 5 or 6 in. of vacuum.

Simplified drive

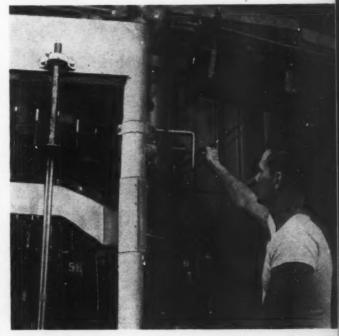
The simple overhead-drive mechanism contributes both to the safety of machine operation and to ease of change-over. The main bull gear is a roller chain, bolted around the edge of one of the two 6-ft.-diameter overhead plates. The star and drive-sprocket gears mesh with this chain. A torque limiter which is mounted on the drive sprocket enables the turntable to be stopped or even pulled backwards by hand, thus preventing "hung" bottles from jamming the machine.

While most fillers have such clutches, they are generally located underneath the filler and thus are subject to possible rusting or freezing unless they are given constant care and maintenance.

The torque control on [Continued on page 188]

SUPPLIES AND SERVICES: Model 30/60 automatic liquid filler by Laub Engineering Co., San Gabriel, Calif.

Drive mechanisms are out of the way of the corrosive product—a feature that permits unhampered washdown of the filling section. Rotary motion is imparted through variable-speed drive by means of a sprocket and link chain bolted to an upper retaining plate.



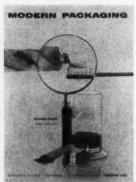
^{*}See "Bleaches Move to Plastics," MODERN PACKAGING, Jan., 1961, p. 96.



Here's a solid success that stemmed from a single, unique packaging idea—but it is the marketing program behind it that has pushed Stripe Toothpaste to fifth place among all the dentifrices in just three years

STRIPE

THIS MONTH'S COVER



From a laboratory development of applying colored paste on white paste through two small polyethylene fitments in the neck of the tube came the intriguing effect of striped tooth-paste. Photographed for Modern Packaging by Hal Reiff.

The outstanding Success Story of Stripe Toothpaste is a clear-cut case of building on a unique package feature. The fascinating idea of toothpaste coming out of its tube striped like peppermint candy (an idea which came from an amateur inventor) was certain to make the package a conversation piece. But the real lesson is this: With a powerful, sustained marketing program, Lever Brothers Co. built what might have been a passing novelty into a solid sales success.

From a beginning only three years ago, Stripe has risen to fifth place among all toothpastes and now reportedly has 3% of the \$285-million dentifrice market. Even with the recent sensational rise of Procter & Gamble's Crest, after its precedent-shattering endorsement by the American Dental Assn., Stripe is believed holding its place.

Part of the answer, of course, is in the heavy promotional support which Lever has thrown behind Stripe—estimated by *Printer's Ink* at \$4,388,000 for advertising last year, about as much as it spent to promote its bigger-selling, long-established Pepsodent toothpaste.

But first there had to be a package with a special feature that could be promoted. Here's how it came about:

During the '50s all toothpaste manufacturers, scrambling for pro-

motional advantages, began adding special ingredients. Colgate (still the No. 1 seller) had "Gardol," claimed to give all-day protection; Crest and others had fluorides. Lever had hexachlorophene ("destroys bad breath"), which they had found to be effective in the formulation of their Pepsodent mouthwash.

Consideration was being given to putting out a toothpaste containing the same hexachlorophene, but this would have been doing what everybody else was doing. And Lever (7,500 employees; \$410 million gross sales) wants no part of "me-too" products—a philosophy which has been prominently credited for the company's

general favorable financial showing during the last several years. Then one day in walked Edward Robinson, vice president and creative group head of J. Walter Thompson, Lever's ad agency for Lux and other products, to tell of a conventional-looking metal collapsible tube that mysteriously put red stripes on toothpaste as it extruded it. This is it, he suggested—not just a package to make toothpaste look pretty like a candy cane (that would have been anathema in dentifrice merchandising), but a way to dramatize hexachlorophene as a visual thing, in a way that no other brand could do it. (Hexachlorophene, incidentally, is now contained in both the toothpaste and the stripes of Stripe Toothpaste.)

Secret of the invention

The secret was in a tiny little hollow plug concealed inside the neck of the tube, which deposited five stripes of red toothpaste on the white paste as it was squeezed past. It was only necessary for Lever to buy the exclusive rights from the unknown inventor, a Mount Vernon, N. Y., printer named Leonard L. Marraffino who, with a draftsman friend, John Spero, who helped him work nights on the idea for five years, is now a wealthy man from Stripe royalties.

As Lever had anticipated, once the package hit the market, it was a natural for publicity. Perhaps no single packaging idea in history has attracted so much public attention. Newspapers, magazines and wire services picked it up and major newspapers, including the New York World Telegram & Sun, blossomed with pictures of goggle-eyed youngsters who were trying to figure out just where the stripes in Stripe Toothpaste came from.

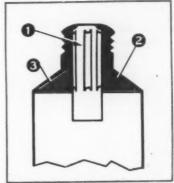
This is how it works:

The mechanism is a \(\frac{5}{8} \)-in.-long, hollow plug of polyethylene plastic, molded with five grooves along a portion of its outer surface. This is inserted into the neck of a regular collapsible squeeze tube. Prior to a conventional tube-filling operation, a small amount of the red toothpaste is put into the tube so that it surrounds the insert just above the shoulder. A polyethylene diaphragm with a hole in the center, looking much like a washer, is fitted over the insert inside the tube to separate the red from the white toothpaste. When the tube is squeezed, the white toothpaste extrudes normally through the hollow plug fitment. As it does, pressure of the product against the polyethylene diaphragm forces a bit of the red toothpaste up through the grooves so that five narrow stripes of the red paste are picked up and "print" themselves on the white toothpaste.

Dozens of ideas, however, had been tried by Mr. Marraffino before



Backyard inventor, Leonard L. Marraffino, in basement lab where he struggled with the mechanism to put stripes on toothpaste that brought him fame and fortune.



How it works: Hollow high-density polyethylene plug (1) with five grooves on outer surfaces is inserted in tube neck. When tube is filled, small amount of colored paste (2) is put in first so that it surrounds insert. Polyethylene diaphragm (3) inside tube separates colored from white toothpaste. When tube is squeezed, white toothpaste extrudes through insert and forces a bit of the colored paste up through the grooves so that it "prints" five narrow stripes on the white paste.



News photos of goggle-eyed youngsters, like this one that appeared in New York World Telegram, dramatized the intriguing toothpaste across the country when the product was introduced three years ago.

he found one that worked. Had he known that since 1900 hundreds of unsuccessful attempts had been made to put stripes on toothpaste, Mr. Marraffino might have given up. By the time he had filed his patent application and was ready to show the device, he had spent \$12,000. He eventually got it to Mr. Robinson at J. Walter Thompson. who, after arranging for Mr. Marraffino to comply with Lever's submission procedures, hot-footed it over to Lever's offices. His entire presentation of the device took just 12 minutes.

Test marketed for a year

A few weeks later, Marraffino signed his first contract—an option on the patent rights until the company could complete a market test. And this was no cursory trial, For 12 long months Stripe Toothpaste was sold in six test cities, from Peoria to San Diego. Response was immediate, but Lever had to be sure of repeat business. Re-orders held steady—then zoomed. Management was ready for the plunge to go national with the intriguing new package.

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The option was exercised for exclusive rights by Lever under Mr. Marraffino's patent. In return, the inventor was to receive royalties amounting to well up in six figures, based on a sales percentage. And John Spero, his collaborator in the development, shares in the earnings too. In addition, the inventor is now receiving royalties from Europe, Australia and Canada, where striped toothpaste is presently enjoying an enthusiastic response equal to that in the United States.

But the problems of Lever engineers were far from over with the signing of the contract. To put stripes on toothpaste required manufacturing to extremely close tolerances and there was no equipment on the market to do it. But a few months after the decision had been made to market test Stripe, Lever engineers were able to design a hand-built "Rube Goldberg" unit that would produce four tubes per minute. (Conventional toothpaste filling machines operate at about 120 tubes per minute.) With good news from test markets, a second semi-automatic line speeded up production to six tubes a minute.

Building the packaging line

When the decision was made to go national, high-speed equipment was imperative. Ordinarily, it takes about a year to design and build a special packaging line. But with the desire to get going, the original design principle was turned over to a manufacturer of tubefilling equipment, The Arthur Colton Co., which was able to deliver the job in just six months. The highly critical problem of driving the insert into the nozzle of the tube in the exact position for proper function was solved by the original supplier of Stripe tubes, the Wheeling Stamping Co. Today, all the tubes—and Lever, of course, now uses several sources of supply-are provided with the insert already positioned in the tube, eliminating the necessity for this step from Lever's production operation.

Success stories like this one show that no firm can afford to overlook the potentials of the most radical packaging ideas in this age when a package is so frequently the key to coveted merchandising advantage. At Lever today, all new packaging ideas, wherever they may come from, are screened and viewed critically from the standpoint of how they can be incorporated into the company's basic mar-

keting concepts for sustained merchandising programs.

Why change a familiar, successful package? To Arnold Bakers, which recently replaced a stand-up paper bag with a satchel-type carry carton for seven varieties of cookies, the answer involves immediate upgrading of self-selection values and long-range prospects for broadening distribution from the regional to the national level.

This Port Chester, N.Y., packager (600 employees) appears to be achieving the first of its goals. The company reports a 20% sales increase since introducing cartoned cookies into selected Eastern test markets. Arnold's decision to repackage stemmed from a realization that the former roll-top bag, although adequate, had no edge in shelf impact over competitive products in the same type of container. What was needed, the company felt, was a package that would, at comparable cost:

- Stand "head and shoulders" over competing brands, both physically and esthetically.
- Offer greater convenience to consumers.
- Give better protection to fragile cookies.
- Ease retailers' stocking problems.

Arnold believes that its new carton—with a fivecolor surface design that achieves family identification with the company's bread and roll packaging—satisfies all these requirements. Containing the same number of cookies (15) as the bag formerly used, the one-piece, clay-coated-board carton is substantially taller, standing 10¼ in. high.

Good display use is made of the extra height; a fine-screen lithographic reproduction of the cookie contained in the package appears in color against a bright white background on sloping front and back closure panels of the carton.

From the standpoint of physical protection, the rigid carton minimizes cookie breakage caused by rough handling, says Arnold. A reclosable greaseproof inner bag helps maintain product freshness.

Since adopting the new carton, Arnold has instituted a "bread-merchandising" tactic of sending retailers smaller stocks, but at more frequent intervals, to insure constant product freshness.

SUPPLIES AND SERVICES: Carton by Lord Baltimore Press, 425 Park Ave., New York 22. Inner bag by Oneida Paper Products, Clifton, N.J.

Tall story

Seeking greater competitive impact and broader distribution for cookies, Arnold Bakers adopts a 10 1/4-in.-high carry carton that combines new display values and superior protection



Wordless appeal to appetite is made by finescreen lithographic reproduction of cookie in color on sloping panels of Arnold's new carry carton. At left, reclosable greaseproof inner bag assures long-term product freshness. Note construction of lock tab, which is die cut from carry handle.

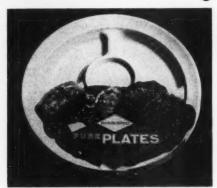






3

PACKAGING



- 1 A foam aerosol that dispenses pre-measured dosages has been developed for Schering Corp.'s Diloderm pharmaceutical skin cream. The 10-gm. dispenser, small enough to fit into pocket or purse, provides about 100 applications. Metered valve, Emson Research, Bridgeport, Conn. Plastic-coated bottle, Wheaton Plasti-Cote Co., Millville, N. J. Contract filling, Armstrong Laboratories, West Roxbury, Mass. Outer case, Emson Research and Watertown Mfg., Watertown, Mass., using Kopper's Super Dylan high-density polyethylene.
- 2 General Mills has entered the growing market for weight-control food with its "Route 900," packaged in convenient-to-use pre-measured pouches, packed 12 to a carton for a three-day diet. The product, which must be mixed with skim milk, is delivered by milkmen. Pouches are formed, filled and heat sealed from foil-polyethylene-paper roll stock flexographically printed in two colors. They hold 11/8 oz., insuring exact 225-calorie count. Pouch stock, Riegel Paper, New York. Form-fill-seal machine, Bartelt Engineering, Rockford, Ill.
- 3 Promotion of paper plates is tied in directly to food items by Diamond National Corp., which now features on its disposable Pure Plates full-color vignette labels showing a wide variety of tempting appetite-appealing illustrations of prepared foods as they would appear on the plates. Illustrated are items from every food department: steak and corn, spaghetti and meatballs, pie and ice cream, etc. The plates are polyethylene overwrapped.

- 4 A new easy-to-open plastic shaker top is a handy convenience feature on Borden Foods Co.'s 8-oz. canister of Grated Parmesan and Romano Cheese. Molded of colorful high-density polyethylene, it features a crescent-shaped opening that turns to provide a variable-size opening for either shaking or spooning out the product. For display stacking, a ridge molded around the top fits into the bottom of the can atop it. Color of the plastic can be changed periodically to facilitate stock rotation. Container, Cleveland Container, Cleveland. O.
- A sealed-top drawcord polyethylene bag now allows the consumer to break the heat seal, take out a portion of the product, then tighten or gooseneck the drawcord for reclosure. Poph-Itt Cereals, Inc., reports reduced packaging costs in use of the bag in a 16-oz. economy size for wheat puffs. Bags are bottom filled, the top being sealed in manufacuring. In use, the gusset top is slit along a crease. "Re-Clos-It" bags, Bemis Bro. Bag Co., St. Louis, Mo.
- A phonograph record, musical instruments and sheet music reproduced on this presentation-display box dramatize American Optical Co.'s new "Bandstand" eyeglass frames. One of a continuing series of counter displays to present new frame designs, this hinged-lid set-up box opens like a book. Nylon clips on the inside lid hold a frame half opened to show the temple features in profile view. Additional frames are clipped to the inside of the box. Box, Homer Alden, North Attleboro, Mass. Letterpress printing, Chronicle Press, North Attleboro, Mass.











- 7 Rexall's new "Brite'n Groom" conditioner-hairdressing is now marketed nationally in distinctive bright packaging. Four-color design on white, used for the slim-lined, collapsible metal tube, appears also on carton. Tube, Sheffield Tube, New London, Conn. Carton, Robertson Paper Box, Montville, Conn. Design, J. Chris Smith, Hollywood, Calif.
- 8 Consumer convenience is added to popcorn packaging by this pour spout on a new 1½-lb. fibre can introduced by the Georgie Porgie Popcorn Co. Metal ends of oblong can are designed for easy stacking and display. Can, Sefton Fibre Can, Maplewood, Mo. Foil label, Rap-In-Wax, Minneapolis.
- 9 Lowe's Kitty Litter now comes in a promotional corrugated box that serves a dual purpose: as a carry-home container and as a pet carrier for traveling. Printed in bright red and blue on white board, container needs no staples or tape and is die cut for ventilation. Handles are an integral part of the lid. Container, West Virginia Pulp & Paper's Hinde & Dauch Div., Sandusky, O.
- Slick-Spray graphite lubricating guns in consumer size, introduced by A. G. Busch & Co., have a red polyethylene squeeze-tube barrel and a long nozzle molded of polyethylene that fits into small openings in locks, lawn mowers, etc. The plastic's resistance to impact, temperature variations and corrosion enables the tool to be kept in sheds and workshops. Tube and cap, Northwest Molded Products, Skokie, Ill., using Eastman's Tenite polyethylene.







Easy handling, good stackability without sliding, large areas for strong brand identity and surface decoration to increase sales appeal are cited by growers as advantages of these multiwall paper bags for bulk seeds.

Growers now protect
bulk shipments with
economical multiwall bags
constructed in various
plies and laminations for
maximum strength and
resistance to moisture and
oxygen that cause
premature germination

TREND to PAPER

In seeds, nature may have produced the first examples of convenience packaging, because in use the "package" is self opening and disposes of itself. But in storage it doesn't provide much shelf life. So growers and their seed suppliers have for a number of years been trying to finish the job.

The problem has been to devise a bulk shipping and storage container that most effectively protects the seed from its enemies and, temporarily, from the very air and moisture that spark its growth at the proper time. Today, more than 40 growers, including such big names as Ferry-Morse and Northrup, King, believe they have found economical protection in multiwall paper bags that:

- 1. Maintain in a dormant state the growth elements nature has built into seeds.
 - ents nature has built into seeds.

 2. Resist external chemical and physical attacks.
- 3. Perform this more efficient job at considerably less cost than before, according to Les Crosby, Ferry-Morse's Pacific Coast sales manager.

Combined with such other advantages as sift-

proofness, inexpensive and attractive decoration, and permanent labeling, plus disposability, these bags—constructed of kraft paper and various laminations and coatings of other materials—have won acceptance by packagers of everything from a wide variety of grass seeds to grain, vegetable, flower and even bird seed. Moreover, most multiwalls can be run at high speed on standard filling equipment already installed to handle other types of bags.

Although properly stored seed will consume only 2/1,000 of its own weight in 10 years, it must be kept in maximum suspended animation until planted, despite necessary handling, cleaning, treating, packaging and shipping. Once its dormancy is interrupted by moisture, premature germination occurs and the seed's value is lost.

Basic to successful protection is minimum moisture and oxygen, although controlling these elements is often balanced by the problem of keeping inside the container the toxic chemicals with which some seeds are treated and that on contact may



Easy use, including quick disposability of empties in the field, are cited as advantages by farmers, who pour contents directly into mechanical seeders. Siftproofness protects users from toxic chemicals present when seed is treated. Expendability of bags prevents dangerous re-use.

harm animals or humans. Kraft paper's low porosity contributes to solving this problem and its poor heat conduction prevents rapid temperature change, another cause of seed deterioration. Thus multiwalls are said to prevent high relative humidity which also encourages the growth of damaging microorganisms and insects in bulk containers. And rodents that are ordinarily attracted by stored seed reportedly find kraft paper difficult to chew and unsuited to building nests. Hence they are more attracted to seed stored in containers more easily invaded.

Just as multiwall bags for seeds are used in a variety of ply combinations—two or more—so the

packaging they replace varies: metal, foil, polyethylene, cotton, rayon or burlap, all of them alone or in various combinations. The new paper multiwalls range from kraft paper coated with 1 mil of polyethylene, through those with a polyethylene-coated, foil-laminated inner ply to three-ply kraft with a 4-mil polyethylene liner, depending on the desired degree of moisture resistance, strength and resistance to chemical seepage.

Growers report that four plies of multiwall kraft with an inner ply consisting of a polyethylene-foil-polyethylene lamination provides the lowest practical water-vapor transmission rate and can be filled, sewn and taped at 900 bags per hour on standard equipment. Supplier tests of such bags show 96.8% effective germination remaining in Sudan grass seed after 90 days' storage at 100 deg. F. and 90% R. H. Cotton bags provided only 1.2% germination after only 30 days under the same conditions and natural kraft without a [Continued on page 180] Supplies and Services: Bags illustrated supplied by

Crown Zellerbach, 1 Bush St., San Francisco 19.

for SEEDS



Sewn open-mouth bag is filled (at right, above) on same equipment used for textile bags and then sewn (at left, above). This is one of two major types of multiwall-bag construction used by seed growers.

Seed sampling is accomplished by inserting "thief" through multiwall, withdrawing sample, then re-sealing bag with pressure-sensitive tape.





sewn or pasted-valve bag is filled through a spout inserted in valve opening in one corner. After filling, valve is sewn or pasted shut. This filling method is particularly effective with treated seed because toxic chemicals are enclosed within filling mechanism for complete operator safety.



How added cost saves 20%

A protective saran coating that adds 50% to the initial expense of corrugated shipping cartons is paying off in a long-range packaging-cost reduction of 20% for a West Coast marketer of swimming-pool chlorine. This lesson in foresight bears examination by many industrial or consumer packagers employing re-usable shipping containers.

Chlorine Solutions Co., Los Angeles, does a handsome business in sultry southern California, an area of intense swimming-pool concentration. The company packages Sure-White liquid pool chlorine in 1-gal. glass bottles, which are sold (in units of four) in a tuck-top corrugated carton. Purchasers pay a \$2 deposit for the bottles and the shipper.

Formerly, the packager found that its untreated shipping carton had a useful life of only about seven trips. Reason: Accidental spillage of the alkaline liquid and water weakened container seams to the point of failure. Since adoption of a saran coating, which protects the carton from the effects of liquid attack and renders it virtually scuffproof, shipper life has been extended to 14 to 20 trips, says the packager. Shipping carton by Tressel Box Co., Covina, Calif., using Dow's saran for the coating.

COST CUTTERS



Economy in carton sealing

A production-speed increase of 50% and a reduction of almost 80% in carton damage are reported by Pennsylvania Frosted Foods Co., Southampton, Pa., since installation of a high-frequency carton-sealing machine that uses a cold resin-emulsion adhesive to seal waxed cartons. The unit is said to develop a bond that permits elimination of overwraps.

Penn Frosted is using the sealer in its cartoning line for frozen fruit pies. In the sealing operation, high-frequency radio waves attack the cold adhesive (pre-applied to the waxed glue flap) through the closed outer flap. These waves instantly create a high temperature that melts the paraffin, evaporates moisture in the adhesive and permits the adhesive to penetrate deeply into the board fibres. Adhesive set is almost instantaneous; package contents are not heated.

The packager points out that carton damage (from heat and jam-ups) has been all but eliminated by the new machine, which operates independently of the cartoner. Concora sealer built for Container Corp. of America, 38 S. Dearborn St., Chicago 3, exclusively by Raybond Electronics, Newton Highlands, Mass. Adhesive by National Starch & Chemical, 750 Third Ave., New York 17.

Rotary imprinter cuts costs and breaks a speed barrier

With the installation of an automatic conveyor-line imprinting attachment for applying label data to automotive oil-filter cans, Purolator Products, Rahway, N.J., has:

- Speeded up the imprinting job to keep pace with other production-line operations.
- Eliminated a costly scrap rate formerly caused by human error in hand marking.
- Accelerated final packaging steps, for an additional saving in costs.

Prior to adopting the rotary-action can imprinter at its Allentown, Pa., plant, Purolator ran a manual line in which workers applied wet decal labels to the oil-filter units. Not only was this operation slow and susceptible to costly errors, says the packager, but it also caused an additional production lag in that cans could not be cartoned until the decals were completely dry. The new precision-imprinting set-up, which uses quick-drying marking ink, is said to eliminate all these problems. Performance of the marking attachment is such that Purolator has installed additional units at its Rahway and Kent (Ohio) plants. Imprinter by Industrial Marking Equipment Co., 655 Berriman St., Brooklyn 8.



50% more sales, for less

Why sacrifice the stand-up display value and protection of a paperboard carton in favor of a flexible foil-laminated glassine bag? When the Chicago Dietetic Supply House did just that for its Cellu dietetic chocolate bar, the company had two aims: an immediate cut in packaging costs and a hoped-for sales increase. The results should interest all manufacturers of products adaptable to foil packaging. Chicago Dietetic reports a 50% sales gain for this specialty item and an "immense" reduction in packaging costs.

The packager credits the sales rise to the upgraded shelf appeal and "confectionery look" of its gleaming foil bag, whose four-color design is dominated by a rich gold-colored background. The bag also is larger than the carton it replaces, giving it an additional display edge.

In the former packaging operation, the chocolate bar was first wrapped in foil, then packed in a carton. The new heat-sealed and grease-resistant foil-glassine bag eliminates the need for preliminary foil wrapping (thereby saving one packaging step) while providing excellent product protection for long storage periods, says the packager. Printed bag by Milprint, 4200 N. Holton St., Milwaukee 1.





TASTE-APPEAL PACKAGING

with the selling power of clean, clear Du Pont cellophane



Candy, like many other products, stays extra-fresh and tasty in Du Pont cellophane. That's because versatile Du Pont cellophane can be specially coated or laminated to meet a variety of specific protective needs . . . including retention of distinctive flavors and aromas. And your product in a clean, clear cellophane showcase sparks buying impulses—people like to see what they buy! Add cellophane's efficiency on high-speed packaging machines . . . beautiful color printing . . . versatility in package construction—and you can see why it's the choice of so many candy makers and other smart packagers.

ar

Find out why it's profitable to start your package planning with a Du Pont cellophane. Only Du Pont offers over 100 special types. Ask your Du Pont Representative or Authorized Converter of Du Pont Packaging Films to evaluate your specific needs. Du Pont Co., Film Dept., Wilmington 98, Del.



BETTER THINGS FOR BETTER LIVING



How Lambert-Hudnut's planning created a new line, able to handle tricky squeeze containers at up to 120 per minute and quickly adaptable to many special jobs. By Charles J. Rodgers

Synchronous line for



C I Rodgers

Handling of plastic bottles at high speed on packaging lines has been complicated by the light weight and the special shapes of these containers, causing tipping at the conveyor and machine transfer points. The difficulty of obtaining machinery for assembling the complex package components has

been a further problem. Here, Charles J. Rodgers, production manager of Lambert-Hudnut Mfg. Laboratories, Lititz, Pa., reports a significant production-line solution at this progressive packaging plant.

Our Lambert-Hudnut Mfg. Laboratories were assigned production responsibility for Super Anahist Nasal Spray and Throat Spray as a result of their corporate acquisition by our parent company, the Warner Lambert Pharmaceutical Co. The assignment was based on the premise that we could supply the requisite packaging needs at a standard cost which would be less than that of the previous outside contract packager and sufficiently low to justify the necessary amount of capital expenditure.

The Nasal Spray packages in 15- and 30-cc. sizes consist of silk-screened polyethylene bottles fitted with plastic dip tubes, plastic nose pieces and plastic caps. These containers are furnished in cartons, display shelf packers and corrugated shippers. The Throat Spray package consists of a 20-cc., conically shaped, silk-screened polyethylene bottle and a pre-assembled dispensing head consisting of dip tube, directional nozzle and plastic cap. This package is also furnished with carton, display shelf packer and a corrugated shipping case.

In looking at the assignment, we broke down the problem into five requirements and limitations:

Production time for the two Nasal Spray packages (based on sales forecasts) necessitated a line speed of 120 pieces per minute or better.

Production requirements for the Throat Spray container was such that a production-line speed of only 60 per minute would suffice.

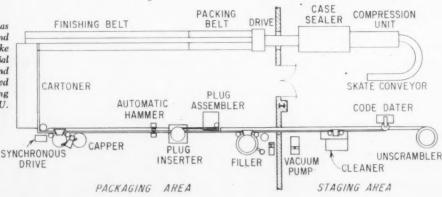
No packaging line facilities were available within the plant to handle the packages at the production rates required.

 Space limitations permitted installation of only one line for all three products.

5. All of our packaging lines are U shaped and the new line had to follow the same pattern.

A line speed of 120 pieces per minute is quite ordinary today with containers that have stability. However, the light plastic containers for the Nasal Spray would fall over in a slight breeze. Also, they required assembly and insertion of the plug-and-tube combination in addition to normal cleaning, filling and capping. Since the bottles were silk

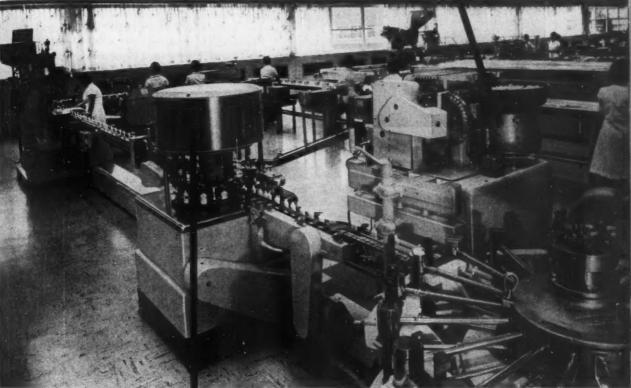
U-shaped facility has bottle handling, filling and closing units on intake leg (bottom right). Special cartoning operations and case packing are located on outbound leg. Cartoning is performed at base of U.

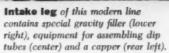


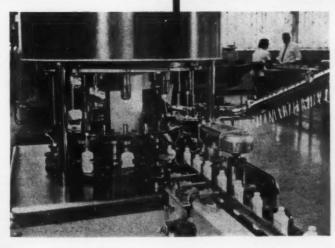
Dip-tube assembly is performed on a special unit positioned adjacent to the line. Spray buttons (center) are automatically connected to the plastic tubes, which are cut to length from rolls (lower right).



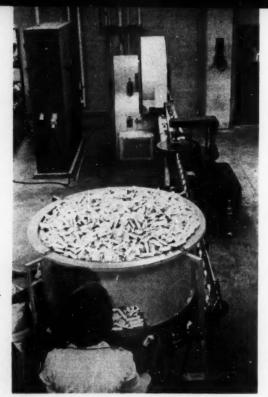
plastic bottles







Inserting machine for dip tubes utilizes continuous rotary motion and special chucks to place spray assemblies in necks of the containers. Note split funnels above each bottle, which serve to guide curved dip tubes into place.



Start of the line is located in warehouse, where bottles are fed by hand onto the synchronous conveyor. After passing through a new code-dating machine (right rear), bottles are cleaned in a rotary air-and-vacuum unit (center rear) and pass through the wall into the packaging room.

screened, no additional labeling was required. Because the Throat Spray bottle would surely require hand insertion of an oddly shaped, right-angle spray mechanism, we momentarily put this package aside and approached the problem primarily with only the Nasal Spray containers in mind.

Synchronous principle

Our Plant Engineering Department considered various conventional means of handling these containers and discarded all as unsatisfactory for one or more reasons. Instead we developed the principle that if we could get these containers onto a conveyor, evenly spaced, and keep them from accumulating at each machine, we could handle them. We had experience with synchronized lines in the bottling of our Listerine (through the capping operation), were pleased with the gentleness of the container handling and this directed our thinking.

Our concept was of a single conveyor, driven from one end, against which we would place each of the machines through the capping operation. All the machines would be driven in synchronism from a common drive shaft. As the conveyor moved, it would carry a line of equally spaced "soldiers" from one end to the other end of the conveyor. At any point one of the machines would "pick off" one soldier to perform an operation and at the same instant return a preceding container to the conveyor flights. This principle of operation had the following inherent advantages:

 Separation of backed-up containers at each machine in-feed would not be necessary.

Containers would arrive at the in-feed wheel of each machine in perfect time with the rotation of the pockets of the in-feed wheels.

3. The containers would be redeposited on the conveyor at the machine discharge by the exit wheel at the conveyor's exact linear velocity. This would eliminate tipping, since there would be no acceleration or deceleration at contact with the conveyor.

 Desired line operating costs, as established by our Industrial Engineering Department, could be met satisfactorily with this set-up.

We next approached the general layout of the line as shown in the sketch on page 110. Since it was to be U shaped, we assigned the in-feed leg to unscrambling, cleaning, filling, tube-and-plug assembly and insertion, and capping. The foot of the U we assigned to cartoning and the discharge leg to display packaging and final casing.

During the initial installation of all of our packaging lines, we had established the maximium length that we could have on each leg of our U so that the new line would match the other equipment that was previously in the packaging room.

With design, layout limitations and line speed settled, we next approached the problem of vendor and machine selection. Our Plant Engineering Department is small and we do not make a practice of engaging in machine design. We have always felt that we should use the packaging-machinery vendors for special designs. Therefore, we show in principle what we want the equipment to do and then ask the machinery people to design and construct whatever is necessary to accomplish the end purpose, within, of course, certain cost limits.

In our experience in the packaging field we have always found that we have more trouble with connections between machines, such as deadplates, than we have with any of the machines we were connecting. So we strongly desired a one-vendor responsibility for operations through the capping station. Once the containers were capped, they could fall over without spillage or damage.

We contacted the packaging-machinery manufacturers who, we thought, might be able to provide us with both the in-feed conveyor of our U and its machines. After discussions with several manufacturers, we selected one as a prime contractor.

Since the plug-and-tube assembly and insertion machine was a specialty that could be provided only by another vendor, we obtained agreement between these two manufacturers on the details of interconnecting the plugging machine with the over-all line.

Package and machine specs

It was obvious to us at this point that our packaging-material specifications would have to be quite detailed and rigid for the machinery people to give us an over-all performance guarantee.

With the assistance of our packaging-materials supplier and our own Package Engineering Department, these specifications were developed and agreed upon quite promptly. They reflected the limitations that the machinery men needed and yet did not result in any increase in cost of supplies.

Once the vendor-design groups were in agreement, we could write detailed machine specifications. They were written in conjunction with the manufacturers and included operating guarantees.

Taking each machine in sequence, we wrote our specifications based on the following:

1. Unscrambling. The prime contractor offered a spacing wheel for the head of the line which he felt would function on this plastic container as it previously had with another plastic bottle shaped like a Grecian urn. This wheel contains the small plastic bottles during the necessary acceleration period and lets go of them only after the bottles have reached exact conveyor velocity. The pockets of this spacing wheel are hand fed from overhead bulk storage.

2. Cleaning. Although the plastic containers as received from the supplier are basically clean, our company feels that, as added insurance for product quality and proper mechanical functioning of the containers, we should clean all containers on the premises. We selected the cleaner proposed for the line by the prime contractor, since we have others of this type operating in our plant. The unit rotates

and inverts each container through a vertical plane. An air blast is directed through a blower stem and, after this stem retracts, a vacuum dislodges any foreign material in the bottle. The container neck opening is not restricted during this period.

3. Filling. Standard vacuum filling was not feasible, since we had both a light container that would collapse and a product that would foam. We therefore selected a rotary filler of 18 heads operating on the gravity-vacuum principle. The liquid flows into the container by gravity and the only function of the vacuum is to increase the filling rate without collapsing the container. All liquid contact parts are constructed of stainless steel for product protection.

4. Plug-and-tube assembly and insertion. The vendor selected to provide this equipment had similar units in production and we were able to check out their satisfactory performance. This machine unscrambles the plastic plug from a bulk supply and inserts the proper length of dip tube, which is automatically cut from rolls. The assembled tubes and plugs are fed down a track to a second rotary machine similar in appearance to a capper. Here they are picked up by chucks and placed into the filled containers, which rotate on the machine base in individual bottle chucks. Since the tubes have some curl, the bottle chucks are fitted with funnels that guide the tubing into the necks of the bottles. The bottle chucks also hold each container by its neck ring so that the downward pressure needed to insert the plug does not collapse the container.

5. Capping. We selected a four-head rotating capper with air chucks because of our previous satisfactory experience with this type of machine. The capper is equipped with the manufacturer's standard cap sorter and feeder device.

6. Cartoning. For this operation we were fortunate in having on hand a semi-automatic unit which

Outbound leg of the line contains an adjustable table conveyor for special packing operations. Here, packages are fitted into counter displays (as in this photo), or assembled for deals. After final casing in the shippers, products return through the wall to warchouse.



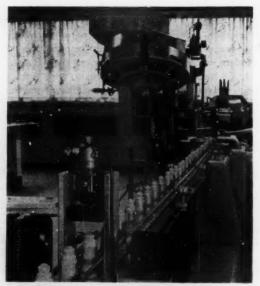
was not in full-time operation on the product line for which it had been purchased. We transferred it to this new line, where it would be kept busier.

7. Display packing and casing. For this operation our Plant Engineering Department laid out the conveyor assembly in complete detail, because we wanted to be sure that all the mechanical flexibility that we have found desirable was included. For example, because display packing is constantly changing, we have found we need variable belt speed and variable packing-station heights. This entire side of the U (to the case sealer) was then purchased on the basis of competitive bids.

8. Case sealing. For case sealing we specified and purchased a unit that is identical to other case sealers already in our plant. We have been completely satisfied with this particular type and make of unit due to its size and simplicity of design. Since we already had eight of these units, staying with the same type also had some standardization value with respect to repair parts and maintenance.

Our general specifications for the in-feed leg of the U covered electric power and construction materials for all machines on the leg. We also specified the exact location of all pushbuttons and other electrical controls so that they would tie in effectively with our central motor-control system.

We specified exactly where the center line for



Flexibility is a key feature of the synchronous line and enables special equipment to be used for many different packages. Here, a company-built pneumatic hammer is located over the line prior to capper to seat the balls in roll-on deodorant bottles.

each piece of equipment was to be located along the conveyor, based on recommendations of our Industrial Engineering Department.

It was at this point in the development that we again looked at the Throat Spray package. We discovered that this container could be handled through the unscrambling, cleaning and filling operation on the new line. It would have to by pass the plugging operation however and, since we planned hand capping, we would not need the capper either. We therefore set the center line of the capper as close to the foot of the U as we could to leave enough room for hand insertion and tightening of the preassembled spray mechanism. Removal of the in-feed and discharge wheels on the capper makes sufficient allowance for this container to pass by.

Line installation

Our Industrial Engineering Department then established the operating-cost standard on the basis of running the line at 60 per minute for the Throat Spray container and 120 per minute for the two sizes of Nasal Spray. Formal quotations from the vendors were submitted to us at this point. We submitted them along with our proposed operating costs to our management for approval of capital expenditure and profitability. Both factors were approved and we proceeded to place our purchase orders.

So that we could be ready for installation, the vendors supplied us with schematic electrical drawings and detailed floor-plan drawings within a few weeks after placing the orders. Our plant forces then obtained and set up the necessary motor-control units and under-floor duct provisions for both wiring and process air and vacuum lines. Product manufacturing facilities were available to us and we had to make only minor installation of pipelines to bring the products to the proper point. Our Industrial Engineering Department compiled the necessary pallet patterns for efficient handling of incoming packaging supplies and finished goods.

When the machinery vendors had finished construction, we made test runs in their plants. These test runs proved to be very valuable, since they turned up some trouble spots which the vendors promptly corrected prior to shipment. Upon receipt of the equipment in the plant we activated a special installation crew from our [Continued on page 165]

SUPPLIES AND SERVICES: Unscrambler, cleaner, filler, capper and synchronous conveyor by Pneumatic Scale Corp., Quincy 71, Mass. Plug assembler and inserter by PMC Industries, Hackensack, N. J. Cartoner by F. B. Redington Co., Bellwood, Ill. Finishing and packing belt by Jersey Conveyors Co., Hillside, N. J. Case sealer and compression unit by A-B-C Packaging Machine Corp., Tarpon Springs, Fla.

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Knox *Name



"Knox furnishes 85% of our juice bottles," says production manager of large cranberry cooperative

"Since Knox first supplied us with glass containers four or five years ago, we have increased our consumption of their bottles from 20 per cent of our total to 85 per cent," says the Production Manager of one of the nation's foremost producers and packers of cranberries.*

"This represents a considerable increase in quantity as well as in percentage, because our cocktail production has gone up 50 per cent since 1957, and has quadrupled since 1950," he said.

"There are two very important reasons why we use Knox Glass in such a large proportion. First is their *Name available on request bottle quality—we have enjoyed a tremendous reduction in breakage over the last four years. Glass breakage is not a real problem with us any more.

"The other benefit we enjoy from using Knox is their extremely dependable delivery. They deliver when they promise they will—and this dependability has allowed us to reduce our own bottle inventory from 50,000 cases to 15,000 cases for emergency use only.

"We've found we can depend on Knox."

Contact the new/Knox Glass for your glass container needs: Knox Glass, Inc., Knox, Pa., or any one of 37 sales offices.

the new/knox glass



Spiral effect is achieved by die cutting flange of drawn metalized acetate base and wrapping spiral around transparent tube, securing it with rivet at top. Items mounted on rectangle of acetate, appear to float in transparent package. Hung on tree, they attract immediate attention.



Chain-store showmanship

Distinctive transparent cylinders with metalized-acetate decoration sell inexpensive jewelry items by the thousands and prove once again the power of the package to create impulse to buy

hat glamour packaging is doing for Glamour Jewelry Co. to stimulate impulse gift purchases of popular-priced items can be done for any number of small items in gift categories if the proper kind of imagination is put behind it.

So successful has been a little transparent acetate tube with decorative metalized-acetate spiral in selling inexpensive jewelry items (59 cents, including the package) that Glamour Jewelry Co., variety chain subsidiary of Coro Jewelry Co., largest in the costume-jewelry business, increased the quantity of its original order 20 times during the past Christmas season. And Glamour is now planning similar novelty constructions for special seasonal promotions throughout the year.

The package, developed by the supplier's designer in cooperation with Phil Downs of Glamour, starts with transparent acetate sheet fabricated as a tube, beaded at both ends. One end is fitted with a drawn metalized-acetate friction base made with a spiral die cut around its wide flange so that the cut spiral

may be wrapped around the tube and riveted at the top to form the colorful decorative element. Mounted on a small die-cut rectangular piece of acetate sheet, the jewelry item enclosed appears to be "floating" in the transparent package. A slotted disk of transparent acetate, equipped with a looped cord, provides a closure and a means for hanging the package on a Christmas tree.

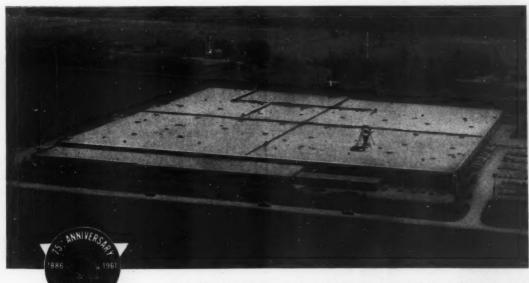
Twenty-four of these packages, containing an assortment of earrings, pins and clips, were supplied to chain stores in combination with an artificial Christmas tree on which the glittering jewelry packages could be hung for counter display.

On a volume basis, the packages proved to be economical enough for the inexpensive items, despite the considerable amount of semi-automatic handling required in the assembly.

Supplies and Services: Transparent spiral packages by Shaw-Randall Co., Inc., Pawtucket, R. I., using Monsanto acetate and metalized-acetate sheet by Coating Products, Inc., Englewood, N. J.

We're celebrating our year of prestige packaging

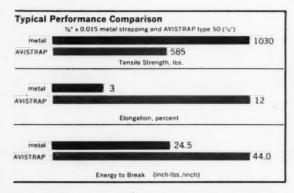
Packaging has come a long way since 1886—and so has F. N. Burt! By maintaining only the highest standards in the production of small set-up boxes, folding cartons and transparent containers, our company has prospered. Today, prestige packages by Burt originate in this modern, 10-acre plant in Buffalo, New York—a truly fitting setting for the celebration of our Diamond Jubilee.



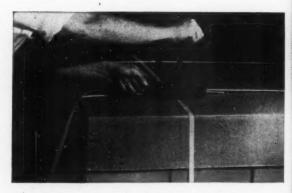
F. N. Burt Company, Inc., Manufacturers of Small Set-Up Boxes, Folding Cartons, Transparent Containers. 2345 Walden Avenue, Buffalo 5, New York. Offices in Principal Cities or Write Direct. Canadian Div.: Dominion Paper Box Co., Ltd., 250 Islington Avenue S., Toronto 18, Canada.

NEW TOUGHNESS

It actually takes more energy to break AVISTRAP cord strapping than to break comparable-width metal strapping. Though metal has greater tensile strength, AVISTRAP—made of high-tenacity Avisco® rayon—has greater "working toughness." Strapping must either extend enough to absorb shock-energy or fail. Metal strap has far less elongation before breaking than AVISTRAP. As a result, AVISTRAP is still stretching, soaking up energy, and holding the package together after a metal strap would have stretched to its breaking point and failed.



Vital statistics. This comparison is the result of careful laboratory tests, using an Instron Tensile Testing Machine. In tests covering metal strapping from ½" th ough ¾" width and from 0.012 through 0.023 thickness—AVISTRAP outperformed metal in terms of energy to break in every instance.



Toughness pays off here. AVISTRAP can be tightly tensioned without danger of sudden breaks, will not lash out with jagged ends. Strap breakage during handling and shipping is reduced. Other advantages: no sharp edges, light weight, easy handling, easy unpacking.

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Write for technical bulletin #4, covering AVISTRAP cord strapping strength tests. Include any other specific technical questions you may have. If you wish, arrangements can be made to demonstrate AVISTRAP cord strapping in your plant. AVISTRAP

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New strength in polystyrene

A new material with low orientation, effective at low temperatures, may open wide market for economical, thin-wall containers in frozen and refrigerated foods. By J. R. Wilkinson*

Very large potential markets exist for polystyrene containers in the field of frozen and refrigerated foods. Actual use, however, has been limited because of several factors. The medium-impact materials have lacked the cold strength necessary to withstand rough handling in stores and the high-impact polystyrenes, while offering adequate strength, carry a high cost tag for this highly competitive field.

A breakthrough has now appeared with the development of a new class of medium-impact polystyrenes having extraordinary strength even at sub-zero temperatures. The combined factors of low cost and high strength offer the packaging industry reason for a re-evaluation of polystyrene for use in ice-cream containers, frozen-food trays and boxes, as well as many other thin-walled items.

A well-known characteristic of injection-molded styrene specimens is the marked orientation of their structure. This can be easily demonstrated by various physical tests. The difference in strength values obtained from samples cut with and across the lines of flow from injection-molded plaques is so great that both sets of values must be known before use of the material can be considered intelligently. The standard tests usually made upon injection-molded test specimens tell only half of the story. Furthermore, the standard tests tell little about how a material will act in very thin sections.

An essentially perfect analogy exists between specimens cut from an injection-molded plaque of polystyrene and from a thin plank of natural wood. With the latter, the difference in strength of specimens cut with and across the grain (in effect, the lines of flow) is very large. To avoid such an effect, wood chips or sawdust can be recon-

*Product Sales Manager, Union Carbide Plastics Co., Div., Union Carbide Corp., New York.

Figure 1. Falling-ball test shows that a thin-wall container of new Bakelite TMD-9020 polystyrene has strength three to four times that of conventional medium-impact polystyrene at temperatures from 75 to minus 20 deg. F. and at minus 20 is more than twice as strong as previous materials at room temperature. In this test, a steel ball is released by magnetic clutch from increasingly greater heights.

Table 1: Room-temperature properties of two medium-impact polystyrenes

(Injection-molded test specimens)

Property	Specimen	Method 4	Unit	Typical value	
				TMD-9001	TMD-9020
Izod impact str.	18 x 12 x 212	D256	ft. lb./in. of notch	1.2	1.2
at 23 deg. C.	1/4 x 1/2 x 21/2		ft. lb./in. of notch	0.6	0.6
Tensile str.	1/s tens, bar	D638	p.s.i.	5,000	4,100
Elong. in tension					
(with extensometer)	1/s tens. bar	D638	%	. 25	20
Modulus of clast.					
in tension	1/4 tens, bar	D638	p.s.i.	4.0 x 10°	4.0 x 10°
Flexural str.	1/4 x 1/6 x 21/6	D790B	p.s.i.	6,500	6,000 (no
					break)
Modulus of elast.					
in flexure	14 x 12 x 212	D790B	p.s.i.	3.7 x 10°	3.5 x 10°
Rockwell hardness					
L-scale	1, x 1, x 21,	D785		90	88
Water absorption,					
gain in wt.	15 x 4 x 9	D570	C'_	0.1	0.1
Deflection temp.					
at 264 p.s.i.					
(unannealed					
specimen)	14 x 12 x 5	D648	Deg. F.	175	165

Table II: Ball-drop tests on thin specimens of medium-impact polystyrenes

(0,035-in.-thick samples)

Temperature,			rop, in.gm.	
deg. F.			TMD-9091	TMD-9020
75			72	270
32			63	195
0			46	180
-20			39	165

Table III: Flexural strength of thin specimens of medium-impact polystyrenes

(0.035-in.-thick samples tested at 60 deg. F.)

MANUAL TO THE PARTY OF THE PART	Typical value		
Property	TMD-9091	TMD-9023	
Load to break, lbs.	30	70	
D. flection to break, in.	0.3	0.4	

stituted with the aid of a bonding agent to form sheets having great strength and exhibiting little, if any, "orientation."

While compression molding of polystyrene produces much the same result—practically unoriented specimens—this fabricating technique is not used for thermoplastics because of uneconomical production rates. Until recently, attempts to minimize orientation through control of the polymeric structure of the resin or through formulation of the compound have been generally unsuccessful. Means of accomplishing this objective in the resin have now been developed, however, and a material having low orientation in thin-walled containers is commercially available. This resin is a molding type and is not intended for sheet or film.

Designated Bakelite TMD-9020, the new compound is classified by conventional test methods as a medium-impact polystyrene. In Table I, it is compared with a widely used, general-purpose, medium-impact polystyrene, Bakelite TMD-9001, having conventional orientation. According to the results of these standard tests, the materials are substantially the same in basic physical properties, as is shown by Table I. [Continued on page 171]



Figure 2. Ice-cream, frozen-food and cottage-cheese containers of TMD-9020 have good translucency and resist rough handling. Thin lids for bulk ice-cream cans stand up under sub-zero storage temperatures. In such thin-walled items, this new polystyrene provides high-impact performance in the cost range of medium-impact materials.

The status of food aerosols

A review of developments to date in packaging of pressurized foods. with a discussion of technical considerations and a forecast of future progress. By W. Earl Graham*

There is an amiable difference of opinion between the food and aerosol industries. Food technologists prefer "pressurized foods," whereas the aerosol industry applies the term "aerosols" to all pressurized, self-propelled products, which are dispensed through valves. This is true whether the products dispensed are true aerosols, wet sprays, foams or liquid streams. The aerosol industry is proud of its achievements and wishes to maintain its generic "trade name" even if in most cases, strictly speaking, it is misapplied technically.

As with all aerosols, food products may be pressure dispensed as sprays, foams, liquids and soon, perhaps, as viscous pastes.

The most successful food aerosols of todayaerated cream and vegetable toppings-originated about 12 years ago in single-trip lithographed cans (1)1. Almost immediately, they established themselves at a yearly volume of about 30 million units. The growth of these toppings has been continuous, if not spectacular, until now an estimated 80 to 90 million cans are packed annually. As the current per capita consumption is about 1/2 can yearly, there would appear to be ample opportunity for their continued increased volume.

During the past decade there have appeared on the market other food aerosols: fruit-flavored syrups such as orange for drinks, chocolate syrup (both as a milk additive and as an ice-cream topping), liquid coffee, spray barbecue sauce, cheese-flavored dressings, spray garlic flavor, milkshakes, pancake batter, vitamin syrups, meat tenderizer and other condiment flavors and sauces. The total volume of all these other food aerosols has never been more than 5- to 10-million cans in any one year.

This current yearly production of food aerosols of about 100-million units compares with the 1959 production of non-food aerosols of 575-million containers. The non-food figures are CSMA survey statistics. There are no similar statistics available for foods, but the 100-million figure represents the concensus of informed sources.

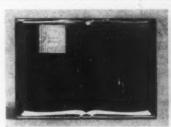
One objective of this paper is perhaps to explain why this lag in food-aerosol production.

We will assume some background knowledge of aerosols as a whole and will concentrate mainly on the packaging aspects of food aerosols.

Components of food aerosols.

As with non-foods, the form in which a food is pressure dispensed is a function of the product formulation, nature and proportion of the propellant, and valve design. The container, whether of glass or metal, is an essential part of the package, but until the availability of the so-called "piston pack," to be described later, does not influence the form in which the food is dispensed. (See "The First Free-Piston Aerosol," this issue, p. 88.)

Containers. Generally speaking, the same containers of metal, blackplate, tin and aluminum, glass and plastic are available for foods as well as for non-foods. In practice, the containers which have been mostly used for foods have been tinplate of 6-, 12- and 16-oz. sizes, increasingly the latter. This







Mr. Graham

This paper, by W. Earl Graham of the Clayton Corp., was voted the best of 52 papers submitted for the recent 22nd Annual Forum of the Packaging Institute and the annual T.O.P. Award, a bronze plaque, was presented to Mr. Graham. The paper is published here by permission of the author and the Packaging Institute.

^{*}Vice President, Sales, Clayton Corp., St. Louis, Mo.

1 Numbers in parentheses identify References appended.

PISTON-PACK CONTAINER

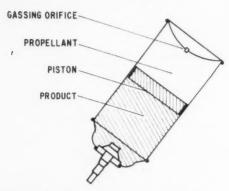


Figure 1. Schematic illustrates the principle of the new piston-type aerosol, in which propellant is separated from product by a free-moving piston or diaphragm. Gassing is from the bottom. This has possibilities for viscous foods, or for those which might be affected adversely by contact with the propellant.

16-oz. size (211 x 608) is the largest available for food and non-food aerosols. Economics, or unit cost per ounce, is the greatest factor in the choice of this large size. Tinplate composition, coatings as well as container design, need not be basically different than for other foods or other aerosols.

The ICC regulations (2) which apply to food aerosols are Sec. 73.302(5) applicable to gasses such as CO₂ and N₂O₂:

"Foodstuffs—in metal cans with soluble or emulsified compressed gas, provided the pressure in the container does not exceed 115 p.s.i.a. at 70 deg. F. or 150 p.s.i.a. at 130 deg. F. The metal container must be capable of withstanding without bursting a pressure of two times the pressure of contents at 70 deg. F. or one and one-half times the pressure of the contents at 130 deg. F., whichever is greater."

Sec. 73.302(9) of the ICC regulations, applicable to the nitrogen pack, says:

"Inside non-refillable metal containers of a capacity not to exceed 17.6 fl. oz. charged with a solution of non-poisonous and non-flammable materials and non-liquefied compressed gases. Pressure in the container not to exceed 140 p.s.i.a. at 130 deg. F." The metal container requirements are the same as in the previous section.

A factor to be remembered relative to container specification and selection is that, while with non-foods using liquefied gas propellants, the pressure ranges are usually not over 55 p.s.i.a. and in a few cases up to 70 p.s.i.a., for foods using compressed gases, pressures up to 115 p.s.i.a. are normally used.

With aerated toppings such as whipped cream, which are distributed and stored at refrigeration temperatures, these high pressures are not too critical. However, with the newer products such as chocolate and other syrups which are stored at room temperatures of 70 deg. F. and in warm weather at 20 to 30 deg. higher, the selection of a container is more important. Container design and construction relative to metal fatigue needs to be fully evaluated before deciding on the final working pressure.

Another important consideration in containers is that some food aerosols, such as salad dressings, are normally packaged in glass and the corrosion factor must be fully evaluated if metal containers are contemplated. Likewise, where reformulation of foods is necessary for pressure dispensing, a higher moisture content or pH adjustment may require different container specifications than exist for the similar food in the original non-pressurized form. In any event, the same careful, and often lengthy, container and product stability tests are necessary in exploring the packing of a new food aerosol. This is particularly true in other than refrigeration distribution, where chemical reactions are slowed down and shelf-life expectations are shorter.

Valves. In considering valves for food aerosols, the basic design as influencing the form to be dispensed (e.g., spray, foam or stream, often referred to as liquid flow) is all important. Both of the two basic valve types, the nozzle down or dip tube (upright), have been used, though for aerated foams where the food is dispensed directly on other foods, the nozzle-down type has been used exclusively.

In addition to the many factors influencing selection and evaluation of valves for all types of aerosols, the following considerations are particularly pertinent for foods (3):

Flow and delivery rate.

Dip-tube length and orientation (where this type of valve is used).

Means of preventing cavitation on viscous foods. Orifice size and clogging—particularly with foods having fibre or other solid particles.

Crystallization of sugar or other ingredients in the aerosol valve,

Efficiency for cleanliness in use by consumer.

Corrosion in valve and valve components.

Ease of actuation and directional characteristics, particularly when used by children.

Material-of-construction status under the new Food Additives Amendment.

Cover protection in shipment and storage.

Ease of removal of cover and tamperproofness. In answer to the question invariably asked by the housewife relative to cleanliness and resealing of food aerosols compared with similar foods packaged by conventional methods, the problem is no greater than with the latter foods. More often than not, since aerosols are self sealing and by their nature nonspillable, the problem of cleanliness is less. While the convenience of aerosol foods is apparent, the need for good household practices in their use is not entirely eliminated.

However, while the pushbutton dispensing of foods is more convenient and less messy than by most other methods, the aerosol industry need not be too self critical if it has not eliminated entirely the need for the housewife exercising good sanitary practices in use and storage after initial dispensing.

Propellants. No liquefied gas propellants have thus far been used in food aerosols, nor have they as yet been approved by the Food & Drug Administration. Of the three compressed gases used in food aerosols, nitrogen, nitrous oxide and carbon dioxide are classified by the F&DA as "generally recognized as safe."

The N₂O and CO₂ propellants are soluble in water and fats almost to an equal degree and, where used, will result in dispensing a stable foam, a frothing or effervescing liquid or, with suitable valve design, a spray such as with garlic flavor or meat tenderizer. Nitrogen, being insoluble in practically all foods, will dispense a liquid in a stream much as if it were poured from a conventional package.

With aerated topping, N_2O has been used alone or in combination with CO_2 (85/15% mixture).

Compressed gases, differing from liquefied gases, do not have the character of the latter in maintaining uniform pressures from initial dispensing to final discharge. With nitrogen, this drop-off in pressure may result in a final pressure of only 40 p.s.l.g. compared with an initial pressure of 100 lbs. With carbon dioxide and nitrous oxide, both soluble to a degree in water and fat, the drop-off in pressure is not so sharp as with nitrogen.

One of the arts of formulating food aerosols has been that of manipulating product, gas and valve design so that this lowering of dispensing pressure as the contents are used has a minimum effect on overrun, degree of foaming, or on the spray pattern. To minimize further this drop-off in pressure, a greater head space is used for food aerosols than for non-foods using liquefied gases. Thus, for a 16-oz, aerosol container, a normal fill for whipped cream may be about 10 oz.

Since pressurizing is a more efficient method of whipping cream than mechanical incorporation of air by beating, this filling ratio cannot be considered adversely, since it appears to be an inevitable accompaniment of the aerosol. The pressure drop-off on a properly formulated aerosol should have little significant effect on product quality. Product formulation. Probably the most important factor relative to the future growth of food aerosols is the formulation of the food itself. Unhappily, up until now it has been impossible in most cases to pack a conventional food in a container, seal with a valve, gas and hope to obtain a marketable product. It appears desirable that food marketers approach this new method of food packaging with the willingness, or even desire, to develop new concepts in food formulation.

A new food form along with the new package should be the most productive approach in considering the marketing of food aerosols.

The installation of food-aerosol laboratories in the research centers of many major food marketers is evidence that the problem of product formulation and reformulation is being intelligently considered.

Filling and packaging

The most persistent problem facing the foodaerosol industry relative to filling is that of speed and efficiency of gassing with soluble gases. The unit operations of filling are rather straightforward. These consist of the following steps:

Filling of the food itself by conventional-type fillers in the open top of the container.

Placement and clinching or sealing of the top containing the valve.

Gassing through the valve.

With soluble gases such as nitrous oxide and carbon dioxide, the only way to facilitate the solution is by agitating while gassing. The alternative is overcharging and subsequent shaking. The solution of the gases in a still can may require several weeks, while overcharging obviously results in excessive pressures and strain on the container components. As a result, agitating gassing is almost universally followed in the industry. Depending on the solubility of the gases in the particular food, this gassing may require 5 to 20 sec. to reach nearly equilibrium pressures.

Early gassing equipment for whipped cream utilized mostly batch, semi-automatic methods, with equipment similiar in design to the familiar paint shaker seen in every hardware store. Later equipment provided fully automatic in-line shaking, but with speeds of not more than 30 to 60 cans per minute to a gassing machine. More recently, rotary gasser-shakers have been designed and are now in use, providing speeds of 120 cans per minute.

A fair amount of experimental work (4) has been done by the industry on the packaging problems associated with gas packing where 90 to 100 lbs. equilibrium pressure is utilized. These experimental data indicate that it is feasible to hot fill and hot gas many food products and obtain a biologically stable

product without undue strain on container components. Commercial experience on chocolate and fruit syrups confirms these findings. The established practice is to fill containers with chocolate syrup at 200 deg. F. (so that the steam emanating from the syrup displaces air from the container head space), then place and clinch the valve cap, pressure fill the nitrogen or soluble gas through the valve and follow by normal water cooling. By so doing, the maximum pressure in the container at the time of gassing, before cooling, need not be greater than 130 to 140 p.s.i.g. for a few minutes before cooling to an equilibrium pressure of 90 to 100 deg. F.

The pressure temperature curve for products charged with soluble propellants (CO₂ and N₂O) is approximately 7 p.s.i.g. increase for each 10 deg. F. increase in temperature, while for nitrogen-charged products, the curve is flatter, only about 3 p.s.i.g. increase per 10 deg. F. increase in temperature.

Similar work (5, 6, 7) on the microbiological aspects of pressure-packaged foods, using test organisms of representative fungi, yeast and bacteria, including C. botulinum, indicates that while CO₂ and N₂O may inhibit the growth of some of the organisms under certain conditions, it is the conclusion of the investigators that: "Since none of the commonly used propellants (nitrogen, carbon dioxide and nitrous oxide) inhibited all of the test organisms, it may be concluded that the thermal treatment necessary to render unrefrigerated pressurized foods 'commercially sterile' will be essentially the same as for comparable foods canned in the conventional manner."

The state of food-aerosol knowledge (8) indicates that these now-common methods of food preservation may be used for many food aerosols:

(a) Cold fill and cold gassing on refrigerated products such as whipped cream.

(b) Hot fill and hot gassing (in the range of 200 deg. F.), as with chocolate syrup.

(c) Pressure sterilization; that is, in-can heat processing after gassing. More work is probably necessary in this area since, to our knowledge, this has not been done commercially.

(d) Aseptic canning and gassing. One product, a whipped cream, is so packaged under conditions said to be aseptic (see "Qwip Whipped Cream," MODERN PACKAGING, Jan., 1961, p. 90), though the product is distributed under refrigeration for the purpose of both chemical and physical stability.

Laboratory evaluation

The development of food aerosols has required, in many cases, new laboratory methods for their evaluation. A technical subcommittee of the Chemical Specialties Mfrs. Assn. has been at work for more than two years on these problems. The following methods are in process of formulation, some of them near completion, and are to be offered to the industry as tentative methods:

Rapid method of pressure determination.

Method to determine pressure dropping rate.

Method to determine product retention.

Method for determining the overrun of food aerosols (foams).

Bacteriological and sanitation guide. Determination of propellant leakage.

Compilation of pertinent public regulations.

New developments of interest

Liquefied gas propellant. It has been considered that if liquefied gases, in addition to compressed gases, were available, some of the disadvantages of the latter use such as enlarged head space and lower cost to the consumer would encourage an expansion in the use of food aerosols.

The available liquefied gases (fluorinated hydrocarbons), though considered non-toxic, are not satisfactory for food products since they impart an objectionable flavor. One of the propellant manufacturers, Du Pont, has selected a liquefied gas, octafluorocyclobutane (Freon 318) as meeting all the toxic and organoleptic requirements for use with foods. Exhaustive tests have been conducted on this gas and the Food & Drug Administration has been petitioned for its approval as a food propellant. The petition has now been accepted for filing.

Considerable work has been done in evaluating Freon 318 in various foods (9). It would appear that the most immediate use for Freon 318, once it is approved, will not be as a liquefied gas, but as an adjunct to the soluble compressed gases, such as nitrous oxide, for whipped toppings. Straight 318 is too expensive for use alone, but in combinations, such as 90% N₂O and 10% Freon 318, it is said to produce marked improvement in the quality of whipped cream, including improved stiffness and stability, and better color retention with less weeping and drainage, as compared with similar whipped cream with N₂O alone. As such, Freon 318 acts strictly as a soluble compressed gas, being more soluble in the fat, but practically insoluble in water.

It is hoped that Freon 318, when finally approved, will not only give an impetus to increased consumer acceptance of established aerated toppings, but will also spur the marketing of other aerated products such as whipped-cheese spreads and salad dressings. Use of Freon 318 as a liquefied soluble gas for food products appears much further in the future.

Piston pack. Up to now, aerosol systems, with the food in direct contact with the gases, have not been feasible with products having a viscosity much



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greater than 2,000 c.p.s. This precludes such products as peanut butter, catsup, mayonnaise and other products in a viscosity range of from 30,000 to 94,000 c.p.s. (10). These latter products just do not flow fast enough through the container and valve ahead of the gases; cavitation or premature expulsion of the gas rather than the product results. Much work has been done during the past 10 years in the use of two-component systems, in which a barrier (11, 12), a diaphragm or piston separates the food, which has direct access to the valve, from the propellant. Such systems are not difficult to design and make workable on a laboratory scale, but have

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Figures 2 and 3. These two products are among the few, other than whipped creams, which have so far been successful as food aerosols. Products which are not kept under refrigeration have greater pressure problems.

offered many problems in bringing it to commercial realization. Such a system, for want of a better name called a "piston pack," is schematically illustrated in Figure 1.

The container, containing the barrier as well as a special perforated bottom, is shipped to the filler. The product is filled in the top in the regular manner and the valve is clinched on; then the gas, either a compressed gas or liquefied gas, is filled through the bottom perforation, which is subsequently sealed. Several container systems utilizing the above principles appear to be at or close to commercial

application. If such containers are available at 1 to 2 cents per unit over regular container prices, they will undoubtedly find application for some foods.

Cost and convenience

Convenience foods have become the "glamour girl" of the packaging industry. The American public has been willing to pay for this convenience, perhaps because the increased cost has been so small for the advantages gained, A recent Government report (13) analyzed the cost of one day's meals for a family of four.

Type of meal	Approx. cost 1953 prices	Hours req. for home prep.	
Home-prepared meals	\$4.90	5.5	
Partially prepared meals	5.80	3.1	
Ready-to-serve meals	6.70	1.60	

Since the preparation-time saving is at the rate of about 40 cents per hour, a comparison with to-day's wage-earning rate readily indicates the economics involved and explains the continued growth of convenience foods. A minor time- or irritation-saving factor built into each new food package may not appear to be much in itself, but extended over many foods and a day's time, readily indicates the convenience-package contribution to the "new leisure" and the American way of life.

Likewise of interest is an analysis of cost of convenience foods made earlier this year by one of the trade publications (14). Of 11 convenience products examined (food and non-food) varying from polishes, toothpaste, salt, whipped cream, soluble coffee and similar products, six were aerosols, of which one was whipped cream. The average increased cost of these 11 convenience foods over the price to the consumer of the regular pack was 51.2%, with one as high as 942%. The cost of whipped cream in aerosols was 175% higher. The ready acceptance of whipped toppings is assurance that the apparent increased cost of food aerosols need not be a hindrance to their public acceptance.

If this analysis is valid, and I believe it is, it would appear that the lag in development of food aerosols is not one of economics alone. Relative to this, however, it should be stated that under current conditions, it is very difficult, if not economically impossible, to package and distribute any food aerosol of any type at much less than a unit retail price to the consumer of 49 cents.

Over the recent period of the great growth and public acceptance of convenience foods, many types have had to compete for the development time of the food manufacturer and ultimately for grocery shelf space. The newer food aerosols have had to compete with a whole [Continued on page 178]

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Cartoning for display

Q: We would like to obtain a carton that is structurally sound for shipping, but can then be opened to display a premium product on the retail shelf. Since our product is bottled and heavy, a simple, unglued tuck carton will not do. What type of container do you recommend?

A: There are a number of ways to achieve visibility in display and still retain shipping strength in a package. The least expensive is a fourpanel carton with a perforated section that is punched out for display. Of course, there is always a set-up box, too, where the lid is simply removed on the shelf. A more elaborate package utilizes a tray with an internal contoured platform and a clear, sheet-plastic cover. And there is a five-panel carton, where the fifth panel serves as a tuck-flap cover over a die-cut side panel of the carton. This container might need an overwrap to give it sufficient shipping strength, depending on the weight of your product.

A window carton could be used for your product, too. Polyester film in the window would probably be strong enough to hold your consumer container, though an inner platform might also be necessary to hold the product in proper display position under the window.

The price of these packages varies widely and without knowing the exact nature of your product it is impossible to specify which paper-board container would be most satisfactory. Much would depend on the market that you serve, the product's mode of display and the price level that you are trying to reach.

Sealing polypropylene film

Q: We are having a problem in sealing polypropylene film. The heat sealer is a jaw-type unit with special temperature controls and coated surfaces, and it is designed for sealing plastic film. We have been testing samples of polypropylene film from a number of sources. The sample

films are from 1 mil to 11/2 mils in thickness and are not the coated or oriented types. Some of the seals can be made with no difficulty after we find the proper time and temperature settings. However, some samples show severe necking in or shrinking of the film near the seal area. Sometimes this shrinkage is more in one direction than in the other. Can you tell us whether this type of shrinkage during heat sealing can be controlled or eliminated from polypropylene films, or whether it would be more practicable to use other sealing methods?

A: Polypropylene films are rather new on the market and there is much work going on to develop new resins and new film-making techniques. The polypropylene resin structure is more complex than conventional polyethylene and the resin is not so easy to convert into film. However, this resin has certain unique and useful properties, among which is the ability to be stretched (oriented) to improve strength.

The shrinkage effect that you have noticed in heat sealing some film samples is a result of the film-making process or technique used in making the film. As a result of certain processing conditions, some orientation occurs in the film, usually in the direction of web travel. If the forces created by this partial orientation during processing are not dissipated before the film cools, then these forces will cause shrinkage when the film is later heat sealed.

This phenomenon of slight shrinkage during heat sealing occurs in some type of film and under some heat-sealing conditions. The best answer is to use a type of sealer that gives a cold mechanical clamping action adjacent to the area to be heat sealed. With such an arrangement, there is no chance for the area near the seal to become warm enough to shrink. This type of sealing system is ideal for any thermoplastic film and is necessary for any film having shrink properties.

Coated thermoplastic films

Q: We like to use thermoplasticfilms in our packaging operation because of their low cost, but we now need a film with high-barrier properties for a new product. Are any thermoplastic films available with coatings that prevent transmission of water vapor and oxygen?

A: There is reported to be at least one polyethylene film now on the market with a polyvinylidene chloride coating that has high-barrier properties. Experimental work has been under way for several years to develop coatings for bioriented polystyrene film, too, though no-commercial progress has yet been announced. Also, a vinyl-coated polypropylene film was announced last year, but it appears to need additional development work.

But, these steps are undoubtedly only the beginning and you will probably see great strides in highbarrier thermoplastic films within the next few years. New water-emulsion coatings of polyvinylidene chloride have been developed that promise good barrier properties at reasonable cost and experiments are going forward with various mixtures of resins that could radically change the properties of basic films. Therefore, you should keep a close eye on these packaging developments so that you can take prompt advantage of opportunities as they arise.

At present, when total packaging costs are considered, a packager desiring a transparent package with high-barrier properties is probably best advised to select one of the special cellophanes with polyethylene, nitrocellulose or saran coatings, or to use a lamination of different materials that particularly suits his needs. These materials should always be considered when evaluating a flexible package, since cellulosic films have established a strong record of performance for difficult packaging applications and often may give more protection per packaging dollar than any other material.

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pany's chain-store sales.

Harry M. Recher has been named mgr. of bag sales by Union Bag-Camp Paper Corp., New York. William Mellick has succeeded him as director of flexible - packaging sales. Frank Little, who continues as director of standard-products sales, been given the additional responsibility of supervising the com-

The Canco Div. of American Can Co., New York, has established four separate divisions within its Research & Development Dept. The Research Div., located in Barrington, Ill., will be under the direction of Dr. Orval R. Alexander. Donald W. Riester is gen mgr. of the Technical Service Div. in Maywood, Ill. The New Products Div., with offices in New York, is under the supervision of Alden J. Schneider as gen. mgr. Albert O. Morkish continues as gen. mgr. of the Machinery Development Div. in Barrington.

Three new vice presidents have been appointed by Breskin Publications, publishers of Modern Packaging, and Modern Plastics. Theodore B. Breskin, business manager of MODERN PACKAG-ING, is now a vice president of Breskin Publications and general manager for MODERN PACKAGING. Stuart S. Siegel, general manager of Modern Plastics, also becomes a corporate vice president. Robert Birnbaum, circulation director, is made a vice president in addition to his circulation duties, James M. Connors continues as a vice president in charge of the Midwestern business staff headquartered in Chicago.

Merger negotiations have been suspended by Minnesota Mining & Mfg. Co. and Warner-Lambert Pharmaceutical Co. According to a joint announcement, the two firms have asked the Dept. of Justice to investigate the proposed combination, to determine whether it can be effected within the framework of, the anti-trust laws.

D. L. Duncan has been promoted to polyethylene product mgr. in the Plastics Div. of Spencer Chemical Co., Kansas City, Mo. He succeeds Fred Sutro, who has resigned. James Doti has assumed Mr. Duncan's former responsibilities as mgr. of the technical information and evaluation section.

Union Carbide Chemical Co., Div. Union Carbide Corp., New York, has named a new four-man fluorocarbons marketing team. Under the direction of John R. Hulten, newly appointed mgr. of specialty chemicals marketing, the group will be responsible for sales of UCON fluorocarbons to the aerosol, airconditioning and refrigeration industries. The team consists of: E. E. Husted, mgr.-fluorocarbons marketing; Thomas M. Hartley, mgr.—UCON propellants, and Charles F. Gray, mgr.—UCON refrigerants.

H. C. Lavely has become sales mgr. of plastics applications in the Plastics Div. of Koppers Co., Pittsburgh. He succeeds W. J. Fitzgerald, who is now national account mgr. Succeeding Mr. Lavely as product mgr. for Dylite expandable polystyrene is W. J. Gort.

A \$4.5-million expansion and modernization program at Reynolds Metals Co.'s Louisville Plant 1 is nearing completion. Among the innovations already in use are a four-high foil mill, two annealing furnaces and a new foil board laminator. A new press has been added to the container dept. to speed up production of aluminum-foil containers for frozen foods and bakery goods. Plant 1 now has the capacity to produce and ship more than 52 million pounds of foil products each year, says Reynolds.



Stan Thomson has been promoted to sales mgr. of R. A. Jones & Co., packaging machinery, Cincinnati. Mr. Thomson, who joined the Jones sales staff in 1957, was made asst. sales mgr. last year. He has had 14 years experience in packaging, being formerly associated with

New Jersey Machine Corp., Plax Corp. and Continental Can Co.

James V. Williams has joined J-E Plastics Mfg., Corp., Yonkers, N. Y., as sales mgr. of the Food Container Div. Mr. Williams has been associated with both Grand Union Co. and Arnold Bakers and since 1950 has worked for Bickford Restaurants on the development and marketing of its packaged food line, and as packaging consultant and manufacturers' rep. for food products. His major responsibility with J-E will be the promotion of plastics packaging for foods. The firm is now in full production of pressure-formed orientedpolystyrene packaging for foods.

A major plastics expansion program within its Polymer Chemicals Div. has been announced by W. R. Grace & Co., New York. Included is a 50% increase in facilities at the Baton Rouge highdensity polyethylene plant as well as additions to the div.'s product line.

Universal Packaging, Inc., has been formed to handle custom and creative packaging for U. S. and Canadian man-

ufacturers. The new firm, located in Plainfield, Ind., will specialize in the packaging of liquids, semi-liquids and solids in heat-sealable, flexible materials. Officers are David G. Reilich, pres., and Arlie S. Riggs, v.p.

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Robert C. James has been named v.p. of Hayssen Mfg. Co., Sheboygan, Wis. He is now in charge of all Hayssen operations. Frank E. Pringle, Jr., has joined the machinery-manufacturing company as gen. mgr. for domestic and





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Pringle

international sales. James C. Johnston has been named asst. to the pres. Mr. James, who was formerly pres. of the Canadian packaging machinery manufacturing firm of Griswold Engineering, Ltd., will continue as chairman.

In collaboration with Jordan Chemical Works Pty., Ltd., of Sydney, Australia, National Starch & Chemical Corp., New York, has formed a new company, Jordan-National Co. Pty., Ltd. The mutually owned firm will make and sell vinyl polymers and various adhesives produced in the U. S. by National Starch.

Harry J. Blum, exec. v.p. of Mead Board Sales, Inc., sub. The Mead Corp., Dayton, O., has been assigned responsibility for coordinating sales and scheduling in the company's nine kraft liner and corrugating medium mills. Fred G. Robertson has been appointed gen. sales mgr. for the sub.'s domestic and foreign business. Edward R. Harris will head market planning.

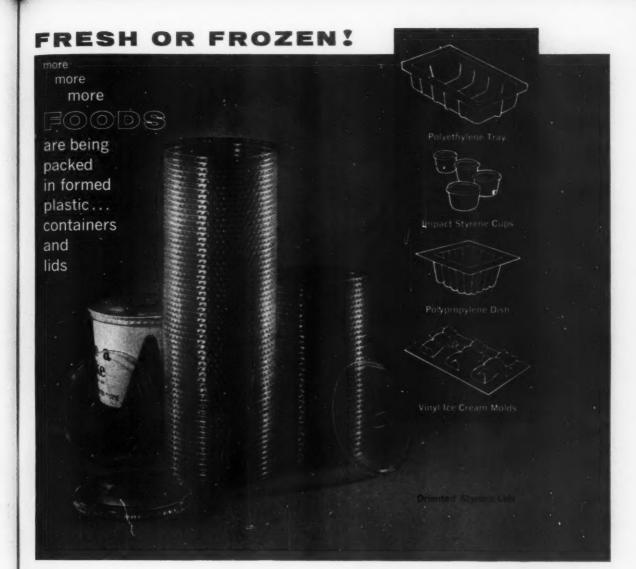
Rexall Chemical Co., Div. Rexall Drug & Chemical Co., Los Angeles, has ini-



Setterstrom

tiated a plastics-manufacturing and sales expansion program. Company plans call for immediate construction of a Midwest polystyrene - manufacturing unit to supplement output of the company's existing plants in Massachusetts and California. A new trademark, Elrex, has

been adopted to denote Rexall's complete line of thermoplastic products. All other names have been eliminated. The firm will enter the polyethyleneresin market on a resale basis until its own 120-million-pound plant is on stream in 1962. A national sales organization has been set up to handle Rex-



Why not a pressure-formed package

Convinced by the successful application of proven pressure forming techniques, the food industry is rapidly turning to formed plastic for packaging all kinds of food products—fresh! frozen! dry! or liquid! And Plaxall, a pioneer in pressure forming for over 22 years, combines "in plant" sheet extrusion with high speed forming equipment to offer an unlimited range of formed plastic packaging. "From Powder to Package", Plaxall produces millions of precision formings at lowest cost. Its skilled engineers and designers will help develop the most suitable plastic container for your food product.

For all types of formed plastic products . . . call or write



Plaxall, Inc. operates under patents owned and licensed by Design Center, Inc., Long Island City 1, N. Y.

for your food product?





Plants & People [Cont'd]

all's thermoplastic line. Carl Setterstrom heads the operation as v.p. of mktg. Assisting him is Lewis Boxenbaum, market analyst. Kenneth Kaufmann, asst. director of research & development, will supervise the technical service staff backing the sales force. Eastern regional sales mgr. is William Monahan, Holyoke, Mass. E. Dean Boldt, regional sales mgr. for the Midwest, will locate at Oak Park, Ill. Beverly Hills, Calif., is headquarters for the Western regional office, with Fred Troester as manager.



Brown

Stuart L. Brown, Jr., has been promoted to director of plastic research in the packaging research div. of Reynolds Metals Co., Richmond, Va. Mr. Brown, who joined the Reynolds plastics dept. in 1959, will be responsible for all research activities pertaining to "Reynolon" films.

Bemis Bro. Bag Co., St. Louis, has acquired a controlling interest in Air-Formed Products Corp., Nashua, N. H., manufacturer of blow-molded products. The merger, according to Bemis, constitutes another step in the company's long-range plans for diversification in packaging and allied fields. Air-Formed was established in 1958 by George E. Pickering and Harold L. Farnsworth. Concurrently, Bemis has purchased a substantial interest in The Systemation Corp. The St. Louis firm, founded two years ago by Philip H. Lanham, pres., specializes in the development of integrated and automated packaging systems and machinery.

Aluminum Co. of America has appointed W. Turbeville as mgr. of foil product sales, succeeding



Turbeville

J. S. Hamilton, who is mgr. of sheet and plate product sales. Asst. foil sales mgr. for the past two years, Mr. Turbeville has been with Alcoa since 1944. William R. Butler has been named to the newly created post of mgr. of the company's develop-

ment divs. and will supervise their expansion and reorganization along industry lines. Harry W. Fritts has been promoted to development mgr. for containers and packaging—a new post.

W. C. Leipold and Maurice Brown, former pres. and secy.-treas. of Plastic Horizons, Inc., now a sub. of Celanese Corp. of America, have established a new packaging organization. Airpak, Inc., 1 Erie St., Paterson, N. J., plans to introduce a "new plastic-packaging product" in the near future. M. Chavannes, inventor of the new item, also is associated with Airpak.

E. R. Squibb & Sons, pharmaceutical manufacturer, recently dedicated a new packaging and formulation building at New Brunswick, N. J. The new \$2-million facility is grared to process and package nearly 200,000 pharmaceutical items a day and is equipped with sterile, high-speed equipment.



Thompson

The Hazel-Atlas Glass Div. of Continental Can Co., Wheeling, W. Va., has named Russell E. Thompson, Jr., as directer of product development. The new post has been established to direct and coordinate the Div's sales promotion, advertising and marketing efforts.

Sun Chemical Corp., New York, has appointed Peter C. Hereld to the newly created position of director of development. He will promote new materials and techniques within the company and will assist in the planning and establishment of Sun's new research center.

Whirl-A-Seal Corp., Fairborn, O., a newly formed company, is making a low cost sealer and handle combination for the flexible-packaging field. According to the company, the "Whirl-A-Seal" of fers a positive seal, a convenient handle and re-use value. Kenneth R. Domigan is pres, of the new firm. K. Wayne Domigan is customer-relations director and I. A. Crawford is sales manager.

George B. Moseley has assumed responsibility as v.p. of marketing, a



Moseley

newly established post at Celanese Corp. of America, New York. Formerly v.p. of sales for Chase Brass & Copper Co., Mr. Moseley will work to coordinate marketing of Celanese chemicals, fibres, plastics and polymers in line with current corporate diversification. Cela-

nese recently enlarged its petrochemical production capacities and has added such new products as polyester fibres, plastic containers and polyethylene film.

David F. Kenney has been appointed merchandiser for dairy packaging by Marathon, Div. American Can Co., Menasha, Wis. He was formerly sales rep. in Milwaukee. Gerald A. Hermsen is now sales-promotion mgr. for cheese packaging. Promotion of Marathon's general packaging sales is now the responsibility of J. James Davis.



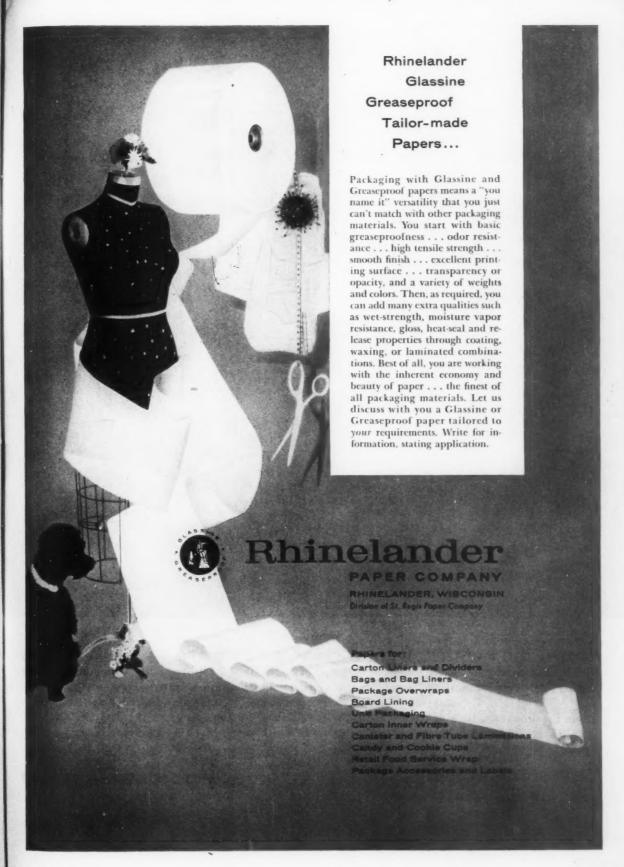
Byrne

Visking Co., Chicago, Div. Union Carbide Corp., has named Harry C. Byrne, Jr., as sales mgr. for plastic films. He succeeds James F. Bernard, who resigned recently. For the past two years, Mr. Byrne has been asst. to the gen. mgr. of plastic films. He has also served as Visking

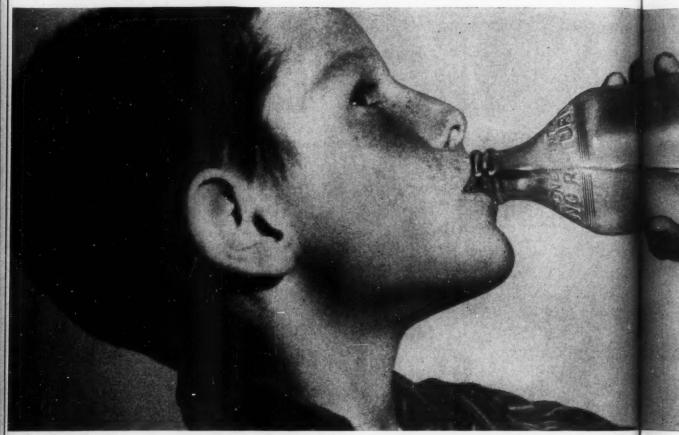
Eastern sales mgr. in New York.

George W. Finlay has been named mgr. of the Wichita bag plant and sales div. of Bemis Bro. Bag Co., St. Louis. He

has been succeeded as supv. of multi-







Down the hatch...from a clear, clean glass • Ummmm — a cold soft drink in a clear, clean glass container by Brockway! Makes a fellow want to chug-a-lug the whole bottleful. Here's real consumer acceptance that started with lively, sparkling eye appeal ... only obtainable when glass is the container. For the younger generation, package your beverage in crystal-clean glass by Brockway. Give your customers the lip-smacking goodness they can *see* with BROCKWAY VISION IN GLASS. Multi-trip or single-trip bottles available.



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SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. VA.
Tygart Valley Glass Co., Washington, Pa.
Celluplastics Inc., Newark, N. J.

Bro

Plants & People [Cont'd]

wall bag sales by U. A. Tull, formerly manager of Memphis sales, a post now held by Donald H. Woodmansee, Jr. Mr. Finlay is taking over the former responsibilities of M. E. Ocker, retired.



Ralcom

Raymond D. Balcom is newly elected pres. of Forbes Lithograph Mfg. Co., Boston. Mr. Balcom, who joined the company in 1957, has served as v.p. in charge of mfg. and as exec. v.p. Prior to his association with Forbes, he was involved in general and financial management.

Mr. Balcom is a director of the Gravure Technical Association.

Sam K. Beetham has joined Comstock & Co., advertising agency of Buffalo. Mr. Beetham, who worked in Owens-Illinois Glass Co.'s advertising dept., subsequently handled food and beverage packaging advertising for Anchor Hocking Glass Co. for 10 years.

Paul H. Gabriel, mgr. of E. I. du Pont de Nemours & Co.'s Yerkes cellophane plant in Buffalo, has retired. Since joining the company in 1924, he has served in several manufacturing capacities including management of four Du Pont cellophane plants. He is succeeded as Yerkes mgr. by David G. Cushing.



Mulholland

J. C. Mulholland has been appointed v.p. of sales for the paperboard div. of Packaging Corp. of America, Evanston, Ill. A 25-year veteran of the paper and paperboard industries, Mr. Mulholland will have his offices at the packaging organization's ters in Evanston.

Black-Clawson Co., Hamilton, O., has acquired the plastic-extruder business of the Aetna-Standard Div., Blaw-Knox Co. Black-Clawson reports that its new high-pressure extruders will be used to complement existing paper and plastics converting equipment made by its Dilts Div. in Fulton, N. Y.

The establishment of a dept. of product design, styling and packaging has been



Floria

announced by The B. F. Goodrich Co., Akron, O. As director of design, James D. Floria will supervise the new dept., which is to serve all divs. of the company. Mr. Floria, an industrial designer and former partner of Brooks Stevens Asso-

ciates, will coordinate various services, both within and outside the company, in the development of product and packaging designs.

Martin L. McManus, v.p. of sales, has retired after 40 years of service with [Continued on page 142]

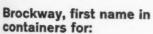


IMS Silicone Spray is specially designed to eliminate sticking problems in the molding, food and packaging fields and even in the home. Being non-toxic, it is now used widely by the dental it is now used widely by the dental profession, the baking industry and by bowling alleys as a release for pin setters. Try a can today and compare the fast acting all-metal valve with many other cans using cheaper spray heads. Remember to look for your FREE BONUS card in every box... only IMS brings you this money saving offer. Keep a few cans handy and your sticking problems are over!

PRICES: \$ 2.00 Per Sample Can \$ 18.00 Per Unbroken Dozen \$197.40 Per Unbroken Gross

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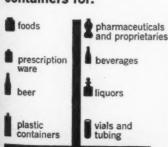
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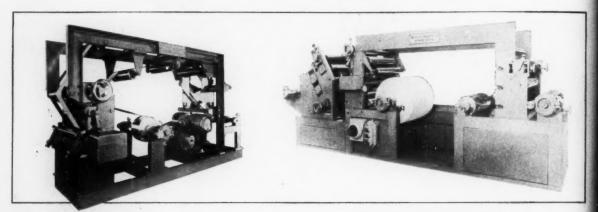
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FOR SHORT RUN PRODUCTION OR PILOT LAB

6" to 24" Web Width; for Coloring, Coating, Laminating, Printing; Foil, Film, Paper.

Shown here are only a few of our many laboratory short run machines.

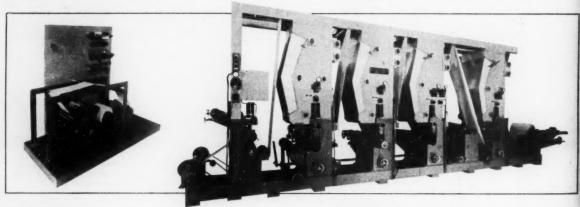


Model RRD (10")

This gravure coater-printer permits the web to be coated on both sides simultaneously, by special threadup and turning bar arrangement. Attachments are available for additional coating methods and for high velocity and high temperature drying.

Model GM-1000 Miniature (14" to 24")

This laminator-coater is a miniature of Inta-Roto's well-known GM-1000 series of high speed production laminators. It laminates with aqueous, wax, or solvent-type adhesives, and coats, colors, treats, or prints, in one pass. Ideal supplement to larger equipment for economical run of small orders.



Model O (6")

Our smallest press for testing gravure and flexographic inks and coatings. Consisting of unwind, flexographic station, overhead web lead to carry web from printing station to rewind. Complete parts for changeover to gravure printing. May be of simplest design merely for pulling a proof, or it may be equipped as a production unit.

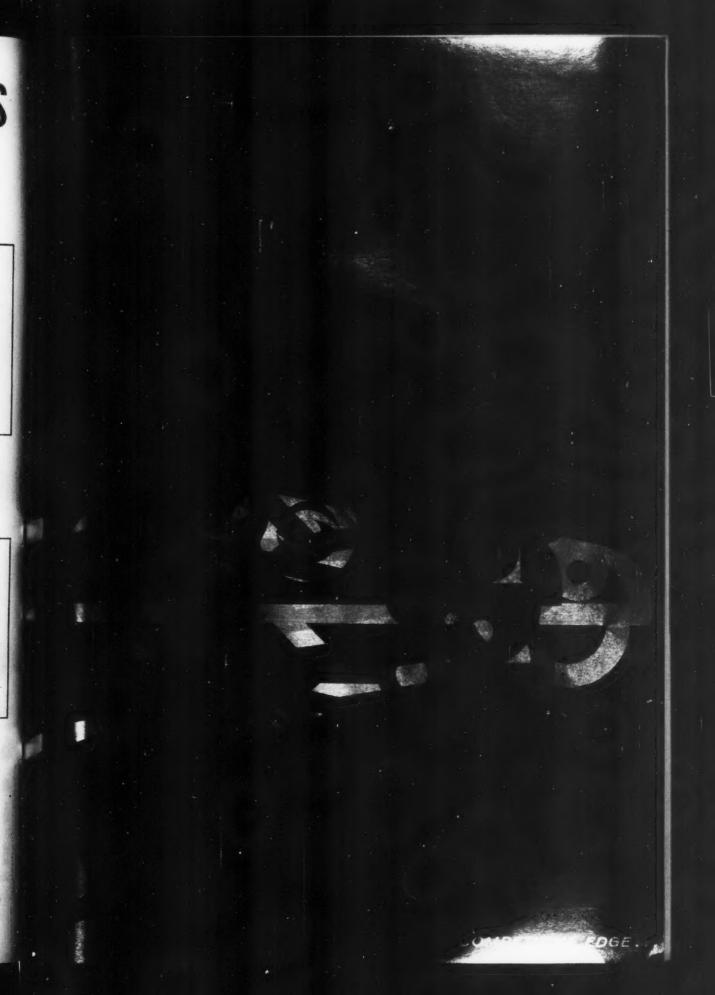
Model WS-4 (14" to 24")

Rotogravure press with individual drying hoods for each station, capable of handling a wide variety of materials from unsupported fail to lightweight cardboard. Provisions for aqueous and thermoplastic laminating make this a most versatile machine. Available for pilot or high speed production, with any type of special equipment.

Write or call for more information.



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A-C-T is a team of experts specializing in aluminum packaging. In it are five groups of specialists offering 12 integral services in Package Development, Package Design, Process Development, Package Equipment, Research and Food Technology. Coordinating all work of A-C-T is the Clearing Committee, but the focal point for A-C-T services is your local Kaiser Aluminum representative, "The Man on A-C-T".











Here's how it works: You want the competitive edge in packaging. You call in A-C-T. Immediately your packaging problem is assigned to the group of specialists best qualified to solve it. Suppose it's Package Development. Industry experts will cover all phases from functional design, specification, prototype construction, testing, even to pilot production. They work with converters to assure practical production, with end-users to assure competitive advantages at point of purchase.

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The Alu-Cup foil container with internal vinyl protection and hermetic fingertip lid (U. S. patent No. 2738,632) is swiftly becoming the universal retail pack for Cheese Spread. Last year's sale over 50,000,000 cups. Keeps contents fresh for many months in any climate.

Now for the first time available in regular supplies to U.S. dairy produce manufacturers at surprisingly low prices.

4 oz. standard cup readily available. Other sizes from 1 oz. to 5 oz. only a matter of special dies.

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Take the Problems Out of CUTTING FOR BLISTER PACKAGING!

HYTRONIC® Cutting Machines break the bottleneck between vacuum-forming and assembly.

Cutting apart the vacuum-formed cavities has plagued companies using plastic bubble packaging.

Now, the Hytronic Cutting Machine by United Shoe Machinery Corporation brings new efficiency to this cutting operation, making operations between forming and assembly faster and far less costly.

The Hytronic Cutting Machine, with hydraulic power and electronic control, will cut single sheets or stacks without adjustment. It will use dies of varying heights interchangeably. Setup time is eliminated, and many medium-run jobs can be done in the time needed to get other cutting machines ready.

Industry leaders, both in plant operations like that at Carters Ink Company and in contract shops like Wespak, Inc. of Chicopee, Mass., have found the Hytronic Cutting Machine the only economical way to bring the speed of cutting blister packaging units in line with forming and packaging operations.

Fact sheets are available that tell how many other companies have profited with the Hytronic Cutting Machine. Available for sale or lease. Phone for a trial today.



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Plants & People

[Continued from page 137]

Paper Package Co., Indianapolis. He joined the company in 1919 as a salesman and was elected a director in 1938.



Freeman

National Cleveland Corp., Fairfield, Conn., has announced the appointment of Iver G. Freeman as v.p. and gen. mgr. of its Plastics Divs.—Auto-Vae Co. and Auto-Blow Corp. Operations of both firms were recently centralized at 105 Meadow St. in Fairfield.

Promotions

John C. Scarth: to asst. to the pres., KVP Sutherland Paper Co., Kalamazoo, Mich.

Richard P. Pearson: to asst. sales mgr., Aerosol Div., The Risdon Mfg. Co., Naugatuck, Conn.

Frederic D. Empkie: to sales mgr., national accounts, Midwest, folding-carton div., Container Corp. of America, Chicago. He is succeeded as gen. sales mgr. of the Chicago folding-carton div. by William E. Mastbaum. Roger B. Kirkpatrick: to gen. sales mgr., Eastern area, shipping-container div. Macon M. Dalton has been named to Mr. Kirkpatrick's former position as gen. mgr. of the company's Philadelphia container plant.

Russell W. Leib, Jr.: to asst. sales development mgr., beer and carbonated beverages, Packaging Materials Div., Armstrong Cork Co., Lancaster, Pa.

Obituaries

Robert E. Bundy, pres. and gen. mgr. of Potlatch Forests, Inc., Lewiston, Idaho, died Nov. 26. He was 55. As chief exec. of PFI for the past 2½ years, Mr. Bundy directed the continued expansion and integration of the company. In his long career in the industry, he had been associated with both Crown Zellerbach Corp., and Fibreboard Paper Products. He was exec. v.p. of Fibreboard when he resigned to join PFI in 1956.

Charles E. Radley, 69, v.p. of Columbia Box Board Mills, Chatham, N. Y., died Dec. 3 after a long illness. Mr. Radley, who started in the papermaking business at the age of 14, joined Columbia as a machine tender and rose to gen. supt. in 1939 and v.p. in 1945. He was a member of the Technical Assn. of the Pulp & Paper Industry.

Paul N. Dotzenroth, pres. and gen. mgr. of Baker Engineering Corp. of Minneapolis, was killed Dec. 16 in a collision of two airliners over New York City. Baker, machinery manufacturer, engineers automated packaging set-ups and general packaging equipment.





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Vacuum Forming and Skin Packaging . . . PAK-O-VAC machines come in single and double working station models. Fully automatic or manually operated. 8 models for every type of vacuum forming, contour and skin packaging, blister and cluster packs.



Automatic Batch Packaging. PAX-MOR machines make and print their own bags up to 8" x 8". Automatically feeds, bags, cuts, counts and handles up to 6,000 bags per hour. Adaptable to unusual product requirements and many versatile, low-cost applications.



Stationary Heat Sealers. COMET heat sealers seal all types of laminated, coated or unsupported thermoplastic materials. Temperature variation control. 5 available models. Hi-speed bench units, air-pressure or foot operated, hand-fed or semi-automatic.



Automatic Blister Forming. Blisters and formed parts are produced automatically in a continuous strip. Max. draw is 4" male and female, or 8" in combination. Two standard sizes, up to 16" x 36" forming area. Complete, compact, requires little floor area.



High-Speed Retary Blister Sealer. Companion to PAK-O-VAC automatic blister forming machines. Cycling is automatic and can be pre-set for any requirement. Sealing area from 8" x 10" and up. Also available in bench models with full automatic cycling.



Pertable Heat Sealers. Lightweight, portable heat sealers will seal, under temperature control, all thermoplastic films. These practical 110-volt, 60 cycle units are air-operated. Available either as self-contained units or as attachments for Comet bench models.

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What's new — and "how-to" — in package planning, methods, forms and materials!



PHOTO SHOWS packaging engineers develaping laboratory-perfected designs for use of wraparounds instead of conventional chipboard shippers.

ere it is—the latest information on package planning, practice and production . . . the answers to hundreds of packaging problems, too! Your 1961 Modern Packaging Encyclopedia Issue, published in Nov. '60, is newly revised and up-dated to bring you authoritative, up-to-theminute information on all phases of modern packaging.

The first section, for example, covers package planning, methods and materials, and discusses topics fike trends and developments, the anatomy of successful packaging, development of the package, check list for package planning and guide to contract packaging, to list but a few. Included also is a brand-new survey of current packaging practices in 86 major companies; a complete round-up of new packaging developments; production challenges ahead-plus valuable package planning tips that will help you save time, trouble and dollars!

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Next, there's a section devoted to package forms and materials. Included are articles on glass packages, closures and caps; aerosols, valves, propellants; wraps and overwraps—as well as 200 pages filled with up-to-the-minute charts, tables and articles on the forms of packaging, plus cost-cutting tips and new ideas in design.

Section three deals with machinery—including the machinery of packaging, machinery selection checklist, package-making equipment. What's more, there's a brandnew 22-page guide to basic types of filling machines.

IDEA EXCHANGE

Then, the package design and merchandising idea exchange serves as a complete source of ideas and inspirations for new designs, new constructions, new materials and new



FOAMED POLYSTYRENE sheet — vacuum formed to provide cavities, hinges, pedestals for electronic parts, fish lures, golf balls—invites "imagineering."

concepts in marketing strategy. Examples of outstanding packaging developments in many lines of businesses are illustrated and described to give you a chance to measure your package against the latest and best examples of effective packaging around.

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What's more, the directory section supplies you with complete, accurate and up-to-date lists of manufacturers of packaging materials, supplies, machinery and equipment. And there's a list of packaging service organizations that is the only such "Where to Find It" guide available anywhere!



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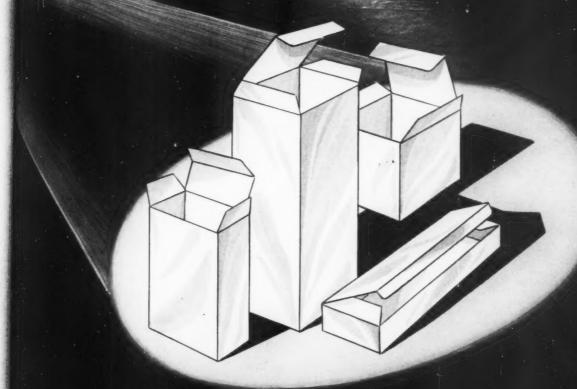
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Announcing a Distinctive New Grade of The World's Most Beautiful Boxboard!



No. 90 Ultragloss Solid White



Comparative Tests Prove No. 90 Ultragless Superior to Other High Gloss Boxboards in Six Ways!

- · Higher brightness and gloss
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- · Considerably greater strength
- · Higher ink scuff resistance
- More perfect folding qualities
- · Greater resistance to fading

Combining a Brighter and Glossier Finish on a Superior All-White Base Stock

In an important development, Lowe Paper Company has produced a wholly new kind of base stock for its famous No. 90 Ultragloss. This most brilliant of all folding boxboards is now made in a "Solid White"... for cartons of optimum eye appeal. White all the way through, Lowe's new base stock is Ultragloss finished—into a boxboard that's superior in performance and matchless in appearance. It has rigidity and snap, prints and folds to perfection. Although developed for product leaders in the cosmetic, pharmaceutical, and food fields, the new Solid White grade of Ultragloss is so attractively priced—just a little above No. 90 White Bak and Gray Bak grades—that it should appeal to makers of all fine cartoned products.

Write or phone for samples and detailed information!



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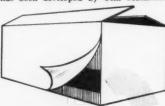
EQUIPMENT & MATERIALS

[Continued from page 48]

oils and fats, and to offer a high degree of oxygen impermeability and sharply reduced transmission of gases and vapors. The coated film is available in gauges ranging from 1 to 4½ mils. Other data are offered by Plastoid Corp., 42-61 24th St., Long Island City.

Reinforced strip adds carton strength

A technique for increasing the strength of corrugated containers without increasing the weight of the entire package has been developed by Olin Mathieson's Packaging Divi-



sion. Called Armor-Gard, this technique consists of laminating a strip of reinforcing material between the corrugating medium and the outer liner in that area which requires ex-

tra strength. The dark area indicated by the arrow in the accompanying illustration represents such a carton-reinforcing strip. This improved container-construction principle is reported to effect major economies by reducing the amount of board needed to achieve adequate package strength. The reinforcing strip can be applied wherever it is needed to meet a particular product's strength requirements. The supplier says it has developed a strength-analysis procedure to determine strip placement. For additional information, contact the supplier. Olin Mathieson Chemical Corp., 460 Park Ave., New York 22.

Automatic blister-packaging unit

Developed for large-volume production of blister or skin packages is Abbott Plastic Machine's new Skin Pack unit. The automatic machine performs draping, vacuum, laminating and oven cycles at the touch of a pushbutton. In addition to saving time, this feature frees the operator to perform such jobs as pre-loading or cutting master cards. A recessed, front-view control panel provides accurate, close-tolerance quality control of all operations, says the supplier. Four stages of timing can be adjusted to one second on the unit, which accommodates master cards as large as 20 by 26 fm. Abbott Plastic Machine Corp., 7124 N. Clark St., Chicago 26.

Label sealer with bag holder

A device that automatically holds a flexible package while it is being sealed with a header label is being marketed by Mercury Heat Sealing. Available as optional equipment with the manufacturer's VLS-12 bag sealer, the new attachment frees the operator's hands the instant he positions the bag in front of the machine. From then on the operation is fully automatic. The bag is gripped by the holding device while the top is folded and sealed and the label is attached. The sealed bag is ejected automatically. Production can be increased as much as 50% by use of the bagholding attachment, the supplier reports. Further data are available from Mercury Heat Sealing Equipment Co., 2601-21 N. Howard St., Philadelphia 34.

Bag and drum packers

Electronic accuracy and quick-change versatility are among the advantages cited for H. L. Stoker's new DX line of bag and drum packers. The new unit packages powdered, granular, pelleted or flaked materials into open-mouth bags and drums. A true-scale beam features a 100-1 scale leverage which is claimed to be capable of recording a change of ¼ oz. against a capacity of 500 lbs. The electronic device functions without direct electrical connection or sparking. An over-under weight indicator, located beside the bag spout, allows checking or trimming the pack by the turn of a knob. According to the supplier, the new machine also provides rapid interchangeability of hoppers and feed systems. The delivery screw reportedly can be changed without tools in one minute to accommodate different materials. A variety of optional equipment is available. H. L. Stoker Co., Claremont, Calif.

Film-grade polyethylene resins

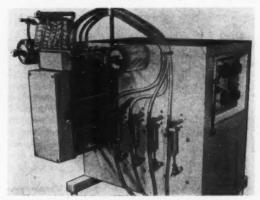
Rexall Chemical reports the availability of a full line of film-grade polyethylene resins, representing every significant density, melt index and end-use property. They are being marketed under the Elrex trademark. Included are polyethylene resins for such packaging uses as garment bags, soft-goods bags, bread wraps. produce bags, heavy-wall shipping bags and overwraps. The supplier also offers polyethylene film resins for agricultural, construction and other packaging and non-packaging applications. Rexall Chemical Co., Div. Rexall Drug & Chemical Co., 3480 Beverly Blvd., Los Angeles 54.

Closure with 'cushion' liner

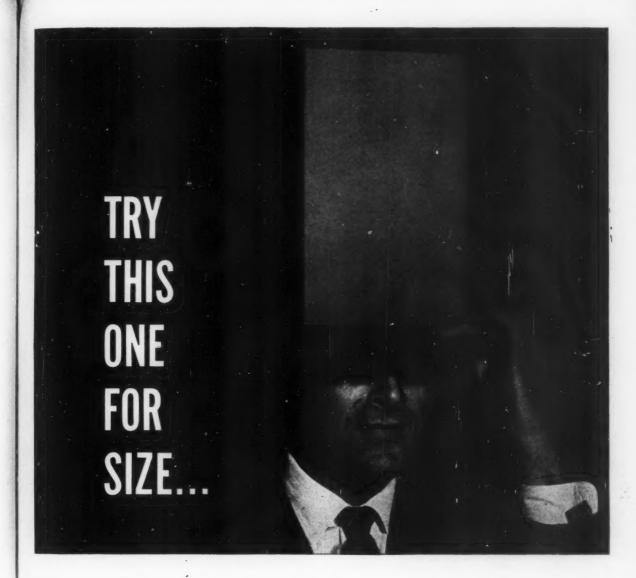
A closure with a soft, dome-shaped polyethylene liner is offered by Gilbert Mfg. Called "Cushion-Seal," it is reported to be suitable for glass and plastic bottles, tubes and similar containers. According to the company, the liner snaps into the closure and will not fall out. When a container is capped, the soft liner automatically forms a vapor-proof seal between closure and container, says the supplier. In addition, it is reported to seal the container under tension, to prevent back-off, and to deform to fit minor irregularities in the container throat, thereby preventing leakers. The soft, inert plastic seal also absorbs the shock of high-speed capping machines, thus reducing breakage, the supplier notes. The closure is claimed to cost no more than conventional closures and to be adaptable to existing production equipment. Gilbert Mfg. Co., 24-20 46th St., Long Island City 3, N.Y.

Liquid pouch packager

A liquid-packaging machine that automatically forms, fills and seals pouch packages at speeds of up to 200 per minute is offered by Circle Design & Mfg. The company's



Model 4-130 reportedly can run almost any flexible material, such as film, foil or combinations. Roll-mounted webs can be up to 10 in. wide. From a 10-in.-wide web the machine simultaneously produces any of the following combinations: one 10-in.-wide package; two 5-in.-wide packages; three 3 5/16-in.-wide packages, or four 2½-in.-wide



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Equipment & Materials [Continued]

packages. Pouch length can be varied from 3% to 20 in. Liquids of almost any viscosity (including sauces and hand creams) can be accommodated on the machine, which can also accept free-flowing powdery or granular dry products. Other features cited for the unit are: rapid changeover, double registration available, electric-eye registration for pre-printed foil, interchangeable scale and volumetric feeds, and ease of accessibility to working parts. Circle Design & Mig. Corp., Emerson, N.J.

Automatic cohesive sealing

Automatic product wrapping in a newly developed cohesiveadhesive paper can be performed at speeds ranging from 50 to 180 packages per minute on the Flowpak machine, reports Baker Perkins. The English-made machine performs a complete wrap from a single web of cohesiveadhesive paper, plowing the web around the product and forming a longitudinal fin seal by bringing the ends of the



web together (adhesive face to adhesive face) and applying pressure. Package ends are sealed in similar fashion, after formation of a gusset-style end fold. Automatic cut-off is done simultaneously with end sealing, to separate the packages. The cohesive-adhesive material, called Cosil, is marketed by the Swedish firm of Billingsfors Forsaljnings. The entire bottom surface of the paper is coated with a latex adhesive that will stick only to itself. This packaging material can be produced in different grades and combinations (including foil-paper laminations) to give it such properties as resistance to gas, oils, corrosion and water vapor. It also can be sterilized at temperatures up to 284 deg. F. Information of the Flowpak machine is available from Baker Perkins, Ltd., Peterborough, England. Details on Cosil can be obtained from Billingsfors Forsaljnings A.B., Galvegatan 124, Stockholm, Sweden.

Leak tester for metal cans

Now available from the Can Machinery Div. of Borden is a nine-pocket mechanical-loading can-testing machine. It is designed to leak-test metal cans and pails (up to $2\frac{1}{2}$ -gal. size) at speeds up to 100 per minute. According to the supplier, the new can tester offers several new advantages. These include: improved test pockets for quicker can change-over; increased test-cycle period for leak detection; a sensitive switch which eliminates the problems caused by atmospheric interference, and an improved discharge turret which reportedly eliminates mechanical failures. The Borden Co., 340 Madison Ave., New York 17.

Oriented-polypropylene produce bag

Designed for the packaging of lettuce is a new Kordite produce bag made of oriented polypropylene film. The film, called Kordite 1000, combines strength and stiffness with outstanding clarity and sparkle. It is claimed to offer moisture-barrier properties twice that of conventional cellophane. In ½-mil thickness, the film covers 60,000 sq. in.

per lb., resulting in a marketing price competitive with that of conventional 1-mil cellophane, says the supplier. The Kordite Co., Div. National Distillers & Chemical Corp., Macedon, N.Y.

Spoilage-reducing fruit tray

Panta-Pak reports the development of a new molded polyvinyl-chloride fruit tray that reduces in-transit spoilage to less than 0.5%. The flexible-plastic tray can be custom

molded to fit any type of fruit. Each piece of fruit remains in its own cavity until it is sold, eliminating the spread of decay from one piece to another, the supplier points out. The tray, made to fit standard lug sizes, also



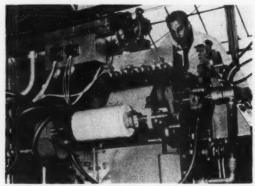
is reported to save retailer time in setting up displays and to eliminate the chore of cleaning up individual tissue wrappings. The PVC tray is available in a choice of five standard colors. Special colors can be ordered as desired. The supplier notes also that the material has been approved for use by the Food & Drug Administration. Pantasote Co., Panta-Pak Div., 415 Madison Ave., New York 17.

Strong wax-laminated cartonboard

Container Corp. introduces "Peel Proof," a wax-laminated paperboard for folding cartons which is claimed to be exceptionally strong as well as resistant to moisture and grease. According to the supplier, the new board offers big advantages in the packaging of dense or high-bulk products in large-size retail cartons. Such cartons made of the material reportedly withstand side-seam delamination even under great pressure. The board also is reported to permit improved production efficiencies by eliminating packaging-line spoilage caused by glue-seam delamination during and after the filling operation. The material can be supplied with a variety of greaseproof and other papers laminated to a variety of board grades. Container Corp. of America, 38 S. Dearborn St., Chicago 3.

Pilot extruder for polyethylene coatings

A pilot extruder for applying various types and thicknesses of polyethylene films in small-lot quantities up to 12 in. wide has been installed by American Sisalkraft. The unit is designed to develop many new wrapping combinations



in polyethylene-coated substrates. According to the supplier, the machine offers packagers an opportunity to acquire custom-made polyethylene-coated wraps at low cost. Specific combinations to meet rigid requirements for strength, durability and impermeability can be made in small quantities, then tested without using large production machines. Coatings as thin as $\frac{1}{2}$ mil and as thick as 5 mils have been applied to board stock, burlap and other materials. American Sisalkraft Co., Attleboro, Mass.



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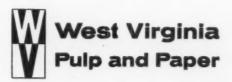
The 75th anniversary of Sears, Roebuck and Co. this year finds the famous Sears catalog a mighty phenomenon of American merchandising . . . and still growing.

During 1961 eighteen million catalogs will go to all 50 states and many foreign lands . . . all safely wrapped in new Clupak extensible paper pioneered by West Virginia Pulp and Paper Company.

The switch to Clupak assures Sears of ample protection for the precious catalogs while en route, and at the same time effects a sizable saving in paper cost.

What makes Kraftsman Clupak paper so tough? The secret is a built-in stretch. Where ordinary kraft breaks on impact, Kraftsman Clupak of the same weight doesn't. Ideal for wrapping heavy catalogs, it's superior to ordinary kraft in hundreds of other applications, too.

Test the challenging Kraftsman Clupak paper yourself. It may be the answer to your problems. For samples and more information, write or call: Kraft Division Sales, West Virginia Pulp and Paper Co., 230 Park Avenue, New York 17, N.Y.



*Clupak, Inc.'s trademark for extensible paper manufactured under its authority and satisfying its specifications.

FOR YOUR

INFORMATION

The Assn. of Plastic Thermoformers is the name of a newly formed trade group, created "for the improvement of trade practices throughout the industry." Carl W. Middleton, Jr., of Plastic Artisans, Inc., is pres. of APT. Daniel Lewis of Robinson Plastics Corp. is v.p. and Sheldon Oshin of Custom Merchandise Corp. is secy.-treas. Charter members of the new association are: Chanal Plastics; Custom Merchandise Corp.; Nordic Plastics; Plastic Artisans; Plastic Enterprises; Plaxall; Robinson Plastics Corp.; Valley National Corp., and Ve-Alite Plastics. Information about this new trade group is available from Mr. Oshin at Custom Merchandise, 43 York St., Brooklyn 1.



Beach

Newly elected pres, of the Chemical Specialties Mrs. Assn. is Charles E. Beach of John C. Stalfort & Sons, custom aerosol packager. Other new officers are: first v.p., Charles E. Allerdice, Jr., The Bell Co.; second v.p., Donald J. Templeton, Stanley Home Products; treas.,

Frederick G. Lodes, Lodes Aerosol Consultants, and secy., Alfred A. Mulliken of CSMA.

The American Management Assn. has developed a new Packaging Management Course, designed for managers who hold important packaging responsibilities. It will be held Feb. 13-17 in New York's Hotel Astor. The five-day course will consist of lectures, case studies and informal discussions. It is intended to establish a framework in which to examine the total packaging function and its major aspects, in order to define the role of packaging in over-all company operations. Registration fee, including all sessions, daily luncheons and a midcourse dinner, is \$250 for AMA members, \$300 for nonmembers. For details, contact AMA Course Registrar, 1515 Broadway, New York 36.

Dr. James W. Goff has been promoted to professor in the School of Packaging, Michigan State University. According to MSU, Dr. Goff is the first person to attain a full professorship in packaging at any school.

A new subcommittee section to study extraction test methods for flexible barrier materials has been set up by Committee F-2 of American Society for Testing Materials. The objective of this study is the development of approved extraction procedures for use in obtaining Food & Drug Administration clearances on flexible barrier materials. Anyone interested in this project is invited to contact Karl W. Ninnemann,

Olin Mathieson Chemical Corp., New Haven, Conn., for additional details.

The Packaging Institute has become an associate overseas member of the European Packaging Federation.

PI also reports that it will co-sponsor, with the National Paper Box Mfrs. Assn., a one-day symposium on the use of set-up paper boxes in packaging. The all-day meeting, titled "Finding Hidden Profits in Set-Up Boxes," will be held Mar. 30 at the Sheraton Hotel in Philadelphia. Registration fee (including luncheon) is \$10 for members of PI or NPBMA, \$15 for nonmembers.

Purdue University will hold its ninth annual on-campus course in industrial packaging, Mar. 20-31. The course will be coordinated by packaging consultant Charles J. Zusi. Industry exports will serve as lecturers for the two-week course. Additional information and registration forms are available from Mark E. Ocker, Div. of Adult Education, Memorial Center, Purdue University, Lafayette, Ind.

The National Institute of Packaging, Handling & Logistics Engineers has opened the annual competition for its two Achievement Awards, one in packaging, the other in materials handling and logistics. The awards are given to individuals who have made outstanding contributions in the development, promotion and application of improved packaging and materials handling and logistics for the Federal Government. All nominations must be in the organization's hands by Mar. 1. Nomination forms are available from NIPHLE, 402 Washington Bldg., Washington 5, D.C.

The Italian Packaging Institute reports that the International Biennial Packaging & Packing Exhibition, better known as IPACK, will be held June 20-29 at the Fairgrounds in Milan. The show will consist of an exhibition of machinery for the foodstuffs and confectionery industries as well as a mechanical handling exposition. Information on the exposition can be obtained from IPACK, via Lanzone 4, Milan.

John R. Miller, Jr., of T. R. Miller Mill Co., has been elected pres. of the Wirebound Box Mfrs. Asgn. He succeeds K. P. Lane of David M. Lea & Co. J. D. Capps, formerly asst. secy., becomes exec. v.p. and secy.-treas. of WBMA, succeeding the late L. S. Beale.

Deadline for entries in the Bachner Award Competition is March 10. The award, sponsored by The Society of the Plastics Industry, is given for excellence in the industrial application of plastics and is open to all manufacturers of products which employ plastic components or are totally made of plastics (molded, extruded or thermoformed). Entry forms can be obtained from William T. Cruse, The Society of the Plastics Industry, Inc., 250 Park Ave., New York 17.

Paul S. Hanway, managing director of the National Fibre Can & Tube Assn., reports that the industry's sales for September 1960 were the largest for any month in the industry's history, 7% over the same period in 1959. Sales for the first nine months in 1960 exceeded by 2% figures for 1959.

"Tinplate Testing—Chemical & Physical Methods" is a 55-page, paperbound booklet offered by the Tin Research Institute of England. Compiled by W. E. Hoare and S. C Britton, the handbook is for those in the tinplate manufacturing and using industries responsible for quality appraisal and determination of grades for specific uses. Quality test methods for thickness and continuity of tin coating, determination of oxide and oil films, performance tests for rust resistance, staining, lacquerability, solderability and corrosion are all included in the handbook, which is obtainable free of charge from the in-

Events

Feb. 6-7—Flexographic Technical Assn., third annual meeting and technical forum, Hotel Roosevelt, New York.

Feb. 7-9—Society of the Plastics Industry, 16th reinforced plastics div. conference, The Edgewater Beach Hotel, Chicago.

Feb. 13-17—American Management Assn., packaging management course, Hotel Astor, New York.

Feb. 20-23—Technical Assn. of the Pulp & Paper Industry, 46th annual meeting, Hotel Commodore, New York:

Feb. 23-24—National Wooden Box Assn., 62nd annual meeting, Boca Raton Hotel, Boca Raton, Fla.

Mar. 9-10—Dairy Industries Supply Assn., 42nd annual meeting, Barbizon Plaza Hotel, New York. Mar. 12-26—EMBA, First Portuguese

Packaging Show, Lisbon, Portugal.

Mar. 20-22—Folding Paper Box Assn.

of America, annual meeting, Drake
Hotel, Chicago.

Mar. 20-31—Purdue University, Lafayette, Ind., ninth annual industrial packaging short course.

Mar. 30—National Paper Box Mfrs. Assn. and Packaging Institute, set-up box symposium, Sheraton Hotel. Philadelphia.

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F.Y.I. [Continued]

stitute, Fraser Rd., Perivale, Greenford, Middlesex, England.

"Peak Productivity—a Management Challenge" is the theme of the third annual meeting and technical forum of the Flexographic Technical Assn. It is being held Feb. 6 and 7 at the Hotel Roosevelt, New York. The forum consists of five technical sessions, stressing the managerial and supervisory responsibility in achieving greater productivity. Registration fee is \$40 for members, \$60 for nonmembers. Contact Julian Ross, exec. secv., FTA, 220 W. 42 St., New York 36.

A. Rodney Boren, v.p. of The Mead Corp., becomes pres. and treas. of the Fourdrinier Kraft Board Institute. George B. Gibson, former exec. dir., will be a consultant. Primary functions of the trade group are research and product development.

To help gifted students who choose the pulp and paper-making industry as a career, several paper companies have established the Syracuse Pulp & Paper Foundation, Inc., at the New York State college of forestry at Syracuse University, Robert F. Vokes of Black-Clawson Co. has been elected pres. of the foundation. W. B. Morehouse, Nopco Chemical Co., is v.p. Other firms assisting are St. Regis Paper Co., West Virginia Pulp & Paper Co., F. E. Bahrenburg, Hammermill Foundation, J. P. Lewis Co., Mead Corp. Founda-tion, Champion Paper Foundation, Concora Foundation, Landegger Foundation, Sealright-Oswego Falls Corp., Riegel Community Foundation, S. D. Warren Co., Weyerhaeuser Co., and Hamilton Paper Co.

Winner of the 1961 TAPPI Medal, given by the Executive Committee of the Technical Assn. of the Pulp & Paper Industry, is G. H. Chidester of the U. S. Forest Products Laboratory. The presentation will be made at the association's annual meeting, Feb. 20-23, at New York's Hotel Commodore.

EMBA, the First Portuguese Packaging Show, will be held Mar. 12:26 in Lisbon. Sponsored by the Portuguese Government, the show is intended to give domestic companies detailed information on packaging techniques used in other countries, with a view toward improving packaging in Portugal. Machinery and materials from European and American manufacturers will be on display. For further information, contact EMBA, Bureau Technique, 3 Rue La Boetie, Paris, France.

The Paper Bag Institute has moved to 41 E. 42 St., New York 17.

The Material Handling Institute has canceled the regional trade show which was scheduled to be held in Los Angeles in March, 1962. The group's Pacific Coast Show will be held Feb. 22-24 of this year at the San Francisco Cow Palace.

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PATENTS DIGEST

This digest includes each month a brief summary of the more important current patents which are of special interest to all packagers.* Edited by H. A. Levey

Apparatus for Filling and Closing Aerosol-Type Dispensers, Carl H. Mayer, Jr. (to The Kartridg Pak Co., Chicago, a corporation of Iowa). U.S. 2,958,170, Nov. 1. In an apparatus for pressurizing and closing aerosol dispenser containers presented with a cupshaped closure top loosely assembled in the filling opening of the container, a head having a chamber opening from one end and dimensioned to receive the upper end of the container.

Apparatus for Packaging Articles in a Printed Plastic Sheet, Harvey W. La Branche (to Washington Steel Products, Inc., Tacoma, a corporation of Washington). U.S. 2.958,172, Nov. 1. Apparatus for packaging an article in a thermoplastic sheet having printed and packaging areas, comprising means for supporting an article to be packaged, with peripheral bead-forming means on the support means.

Apparatus for Producing Strengthened Containers with Metallic Liners Therein, John B. Wilson (to Reynolds Metals Co., Richmond, Va., a corporation of Delaware). U.S. 2,958,266, Nov. I. Apparatus for lining a pre-formed container having one closed end and four sides extending from that closed end, with a pre-formed inherently sealed liner having a metallic layer on a first surface, a wax-pervious layer on a second surface and a wax layer intermediate said first mentioned layer.

Bag-Sealing Machine, Jack Dreeben, c/o Mercury Heat Sealing Equipment Co., Philadelphia. U.S. 2.958,368, Nov. I. A heat-sealing machine comprising a housing having a first section and a second section connected thereto in spaced relation, a fixed sealing jaw mounted at one margin of one of said sections and facing toward the other of said sections.

Container Divider, Morris W. Kuchenbecker (to American Can Co., New York, a corporation of New Jersey). U.S. 2,958,452, Nov. 1. A divider for a container, said divider comprising an integral blank suitably cut and scored to provide a bottom panel, a pair of side panels hinged to opposite side edges of the bottom panel and a connecting panel hingedly connected to an end edge of the bottom panel.

Box, Edgar F. Collins (to Metal Edge Industries, a corporation of New Jersey). U.S. 2,958,453, Nov. 1. A receptacle comprising a body section including an upright front wall having formed therein a recess opening on the top edge thereof, a pair of slots extending downwardly from the bottom of said recess respectively on opposite sides thereof.

Method of Producing Insulating Containers, George V. Mumford and Leonard D. Soubier (to Owens-Illine): Class Co., Toledo, a corporation of Ohio). U.S. 2,958,907, Nov. 8. A method of forming an insulated container which comprises nesting the body portion of a container in spaced intonship

within a hollow molding member, thereby forming an annular space between container and molding member.

Automatic Bag-Packaging Machine and Method, William C. Kerker, Hopatcong, N.J. U.S. 2,958,990, Nov. 8. In a method for automatic bag packaging, the steps of automatically raising a single bag, releasably mounting said bag on a horizontally operative receiver, opening the mouth of the bag, releasably reinforcing and gripping said open inouth, introducing articles into said bag while on said receiver and automatically transferring said loaded bag from the receiver.

Pressure Closure, John M. West (to Foster Wheeler Corp., New York, a corporation of New York). U.S. 2,959,322. Nov. 8. Apparatus of the class described, comprising a hollow body member having an open end and adapted for sustaining fluid under pressure, said body member having an annular thrust groove in the inner surface thereof adjacent its open end.

Carton, Alvin A. Petek (to Container Corp. of America, Chicago, a corporation of Delaware). U.S. 2,959,323, Nov. 8. A refoldable partitioned automatic lock-bottom carton formed from a one-piece blank and comprising first and second side wall panels and, two end wall panels hinged together along fold lines, said carton being initially in flatwise folded condition.

Package Liner, Harry E. Engleson and Elmer D. Sramek (to F. B. Redington Co., Chicago, a corporation of Delaware). U.S. 2,959,335, Nov. 8. A relatively flexible walled liner adapted to be received in a container constructed of stiffer material, said liner being formed from a composite sheet of laminated material having an outer ply of aluminum foil and an inner ply of paper bonded to said foil.

Bag, Conrad Rosander (to Bemis Bro. Bag Co., St. Louis, a corporation of Missouri). U.S. 2,959,343, Nov. 8. A multiwall paper valve bag having a front wall and a back wall, said walls being integrally joined along one side edge of the bag by a single fold; said walls being joined at the other side of the bag by a gusset which includes a first panel integrally joined to the front wall at a first fold.

Multiwall Container, Kenneth R. Allen (to Plax Corp., Bloomfield, Conn., a corporation of Delaware). U.S. 2,959,812, Nov. 15. Apparatus for manufacturing reinforced hollow articles such as bottles, comprising a multisection blow mold providing in its closed condition a mold cavity with an opening extending outwardly from said cavity at the juncture of the mold sections.

High-Speed Packaging Method and Machine, John D. Conti (to American Viscose Corp., Philadelphia, a corporation of Delaware). U.S. 2,959,901, Nov. 15. A method of packaging articles including the steps of drawing wrapping material from a supply, forming said wrapping material into a horizontal trough and placing articles to be wrapped in said trough at predetermined spaced points.

Packaging Apparatus, Richard V. Heller and Joseph Di Nunzio (to American Viscose Corp., Philadelphia, a corporation of Delaware). U.S. 2.959,902, Nov. 15. In a packaging apparatus wherein articles are disposed at longitudinally spaced intervals within an advancing trough-shaped wrapping material, the improvement comprising a pair of cooperating scaling rolls disposed along the path of the trough-shaped wrapping material.

Expendable Shipping Container and Baking Pan, William E. Cheeley (to Reynolds Metals Co., Richmond, Va., a corporation of Delaware). U.S. 2,960,-218, Nov. 15. A metallic shipping container and baking pan comprising, in combination, a pan section having a normally imperforate bottom, an outwardly and upwardly inclined side wall diverging from said bottom and having a reinforced upper wall periphery.

Container-Inspection Apparatus, Frederick E. Fauth (to Crown Cork & Seal Co., Baltimore, a corporation of New York). U.S. 2,960,223, Nov. 15. In an apparatus for detecting filled containers having abnormal internal pressures, a container conveyor for continuously transferring containers in a row, a stationary frame structure, a plurality of testing heads carried by said frame structure above and in alignment with said container convevor.

Polygonal Foil Container, Jack B. Blane (to Ekco-Alcoa Containers, Inc., a corporation of Illinois). U.S. 2,960, 255, Nov. 15. A polygonal container for food packaging, including a receptacle formed from foil sheet material to define a marginal lip about its open mouth and a shoulder at the base of said lip.

Closure, Giles B. Cooke and William C. Rainer (to Crown Cork & Seal Co., Baltimore, a corporation of New York). U.S. 2,961,110, Nov. 22. A metal crown closure shell having the top portion coated with a thin film of liquid polysiloxane.

Food Container, Raynor M. Holmes (to Bloomer Bros. Co., Newark, N.Y., a corporation of New York). U.S. 2, 961,140, Nov. 22. In a container for food products, a carton having pairs of opposite side walls and an open top, closure flaps foldably connected to the tops of said side walls for overlapping of opposite flaps to form inner and outer pairs of flaps to close the carton.

Pilfer-Proof Box, Wilbur G. Anderson, Jr. (to American Box Board Co., Grand Rapids, a corporation of Michigan). U.S. 2,961,144, Nov. 22. A selflocking carton comprising a first section and a second section, each having an open face, a closed face and four

*For more detailed information, copies of patents are available from the U. S. Patent Office, Washington 25, D. C., at 25 cents each, payable in currency, money order or certified check. Postage stamps are not acceptable.



Film for bread wrapper extruded from Tenite Polyethylene by Pollock Paper Company.

GREAT NAMES

in Baking are served by

Bread wrapped in sparkling, clear film of Tenite Polyethylene feels softer and fresher to the touch . . . keeps salable longer . . . reduces stale returns. Couldn't this versatile film boost sales for one of your products?



EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, Kingsport, Tennessee



4 of the top 5 processors of dried fruits use flexible film by Standard Packaging

This is a prune. A trifle oversize, but then the whole dried fruits business is bigger than you'd think. The growers' income from it, alone, is a cool billion dollars a year. • Merely supplying the proper flexible films for packaging dried fruits is big business. Because now, 80 per cent of the crop goes into film rather than boxes. • Why the switch to film? There are three reasons:

1) The consumer finds the fruit more desirable when it's clearly visible. 2) Film provides the ideal moisture barrier for dried foods and perfect protection against contaminants. 3) Film costs less. • Have you reviewed your packaging recently, in the light of changing consumer attitudes and new packaging materials? If not, perhaps Standard can be of help.





STANDARD PACKAGING CORPORATION

EXECUTIVE OFFICES: 200 EAST 42nd STREET, NEW YORK 17, N.Y.

Stándard Packaging's marketing approach pays off... in many unusual ways

What's different about this Package?

This Canada Dry Bourbon package has several unique features. One of the most unusual is the fact that all four gift-wrap components came from one source, Standard Packaging.

Each part has an interesting story. The delicate-appearing but almost indestructible little bow, for example, is made of metallized polyester only .00025 of an inch thick. This is the same material from which the Echo space balloon was made. Standard's National Metallizing Division produces it.



Slide off the bandit's gift wrapped

The cellophane band, which carries brand identification and other mandatory copy, was gravure-printed by Standard's *Allegheny-Fuller Division*. The only "commercial" on the package, it slips off like a cigar band, leaving a festive, ready-wrapped gift.



Carton has special features

The carton, which was made by Standard's Bradley & Gilbert Division, has a peek-through top so the recipient can see his gift without opening the box. It also has a Quik-Lok bottom to speed the filling operation.

The foil wrap-made by Standard's Johnston Foil Division-was gravure-printed in four colors by the same division that printed the cello band, Allegheny-Fuller.

Four divisions, working as one, produced a sales-winning package and made important time savings for the purchaser.

Patents [Continued]

sides, said first section being adapted to telescope over said second section.

System and Apparatus for Packing Containers in Cartons, Eugene R. Norwood (to National Dairy Products Corp., Chicago, a corporation of Delaware). U.S. 2,961,811, Nov. 29. A system of unpacking and packing a carton having a pair of opposite end walls that include closure flaps, the carton initially containing empty containers, said system comprising feeding the carton along a predetermined path of travel.

Packaging Machine, Benjamin Redmond and Sanford S. Redmond, New York. U.S. 2,961,814, Nov. 29. In a wrapping machine, a pivotally mounted member containing chambers, means to convey a package into one of said chambers, means to intersperse lengths of wrapping material in the path of the package prior to its entry.

Container-Wrapping System, George W. von Hofe and Edwin K. Wolff (to New Jersey Machine Corp., Hoboken, a corporation of New Jersey). U.S. 2, 961,931, Nov. 29. In a box-covering system, a transfer station from which unassembled box elements are transferred to another station spaced from such transfer station, and means to advance a wrapper along a predetermined path to said transfer station.

Packaging Apparatus, Shepard L. Harmon and John Hohl (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,962,060, Nov. 29. Apparatus for providing a blanket of inert gas for enveloping the open upper end portions of a plurality of filled jars while the latter are traveling along a prescribed horizontal path between jarfilling and closure-capping devices.

Bag Construction, Albert A. Meister (to Bageraft Corp. of America, Chicago, a corporation of Illinois). U.S. 2,962,157, Nov. 29. A flexible quadrilateral bag receiving a deformable non-breakable article of substantially the same length of the interior length of the flexible bag.

Bulk-Packaging Container, William G. Sheard (to St. Regis Paper Co., New York, a corporation of New York). U.S. 2,962,159, Nov. 29. A bulk-packaging container filled to its capacity with not substantially less than about a cubic yard of dry bulk material contents and having strength when filled sufficient to support vertical external load exceeding the weight of its own contents.

Package for Fluent Commodities, Lloyd I. Volckening (to Ivers-Lee Co., Newark, a corporation of Delaware). U.S. 2,962,192, Nov. 29. A package for a fluent commodity comprising at least two layers of flat, thin, flexible sheet material providing a commodity-containing compartment with a reduced narrow elongate discharge passage.

Collapsible Shipping Container, Clifford D. Fallert (to Crown Zellerbach Corp., San Francisco, a corporation of Nevada). U.S. 2,962,203, Nov. 29. A container fully collapsed in flatwise relationship for shipping, the container having opposed pairs of connected side and end wall panels to which are foldably connected, by means of scores, top and bottom closure flaps.

FILM AND FOIL PACKAGING • FOLDING AND SET-UP BOXES • CLOSURES AND CAP LINERS • PAPER PAILS, CANS. TRAYS • LABELS AND OVERWRAPS • LAMINATIONS

ON



What Lord Baltimore's micro-screening means to a frozen food package

MICRO-SCREENING is the heart of Lord Baltimore's revolutionary Fidel-I-Tone, process. One that continually results in award-winning packages such as the Pepperidge Farm, frozen pastry line.

Fidel-I-Tone gives precision sharpness and unmatched color brilliance to packaging. Reproduction qualities never before possible with conventional lithography. Fidel-I-Tone is ideal for today's pictorial packages that *must* sell on sight.

Lord Baltimore was the *first* in the folding box field to successively offer 4-, 5- and 6-color offset presses. Now, all our plants offer these versatile presses as well as rotogravure and letterpress equipment. Novel carton construction and a wide range of finishes are also available.

We can construct a carton precisely designed for your product. Write: 425 Park Ave., New York 22; San Mateo, Calif. or 333 N. Michigan Ave., Chicago, Ill.



Lord Baltimore Press

Synchronous line for plastic bottles

[Continued from page 114]

shop forces under the direction of our assistant plant engineer. This crew of shop personnel stayed right with the machinery installation until the time that it was placed into final operation.

Erection engineers from the vendors were on the premises for our trial start-up to insure that our forces had not made any errors in re-assembling the equipment. As a result, start-up difficulties were minor and we were in full production in what we thought was very good time. This we attribute in part to the test runs prior to shipment. The fact that the packaging-material specifications were tight and were met by the suppliers was equally responsible for a good start-up. All too often a machine man builds a machine for a given container and upon installation finds that the container itself is not quite what was initially specified.

We are of the opinion that with adequate planning these stumbling blocks can be avoided. After a few days' operation we easily met our prescribed operating standards.

After we had been in operation for some time and all of our plant people were pleased with the functioning of the line, we were assigned the production of some new cosmetic items by our corporate merchandising group.

Since we were told that the projected volume for these products was appreciable, we immediately looked to this line to see if we could use it for the new items.

First there were 2- and 4-oz. plastic bottles to hold neutralizer solution for Fashion Quick Home Permanent. A quick survey showed these containers could be run and, though change parts would be required, they would be minimal compared with those for an ordinary production line.

We were able to propose to our merchandising division a standard cost which was most pleasing to them and we proceeded to produce these two items on this line. Again we had a standard operating speed of 120 pieces per minute, but were able to increase this speed during the run by more than 10%.

Next came a 1-oz. glass bottle for Moisture Petals, a lotion-type product for a promotion. In our business, the word "promotion" usually means that the producing facilities have to turn out a large amount of product in a very short period of time on what may be a one-shot proposition. We again looked at this line and could see that for a nominal cost in change parts we could produce this package at a much lower standard cost than was possible on our other lines.

The product in this case was not suitable for gravity-vacuum filling. So, we purchased a screw-type pump with a variable-speed drive and converted the filler to pressure filling, since we felt sure we would have further use for this pump. Again, line performance on this promotion was most gratifying.

Shortly after this we were presented with new plastic containers with a ball for roll-on application for our deodorant products. We knew that we could fill the product with our screw pump, but we had no way of inserting the balls other than with a mallet. Plant Engineering developed an automatic hammer to snap the ball in after hand placing and there was plenty of space between the plugging machine and the capper for operators to place the balls. The automatic hammer was a simple air cylinder, mounted above the conveyor, which was triggered by an electric-eye control. We quickly established an operating speed for these deodorants of 60 per minute but after a few days raised this figure to 90.

Still another promotion item consisted of a 2-oz. plastic bottle with a normal cap finish for Penetrating Cleanser, a lotion product. This promotion allowed even less production time than our normal period. Our own shop made the necessary parts and we were very shortly in operation with better results than we had hoped for on all counts.

It should be emphasized that most of the versatility in this line is due to the synchronous feature, which makes container handling very simple. We now feel we will have many other uses to which we can put this equipment, when line time is available and that the added cost of the synchronous features is more than justified over a long period.



How LORD BALTIMORE helped create an award-winning package for Pepperidge Farm

The UNIQUE Pepperidge Farm frozen pastry package was designed by J. R. B. Rawlings. The 4-color photograph that dominates each carton had to look appetizing. The package had to sell itself. That is why Pepperidge Farm selected our Fidel-I-Tone process.

Step by step ritual

To start, Lord Baltimore controlled every phase of art preparation and photography. From exacting color separations we made the vital microscreened 175-line plates. (That's finer than high-quality magazine color plates.) Finally, the cartons were printed and carefully coated with a high-gloss finish to prevent freezer damage to the packages and product.

From Fidel-I-Tone to freezer

Lord Baltimore received another Technical Superiority in Printing award for this line. Today, Pepperidge Farm is filling and sealing these award-winning cartons on new equipment—also engineered by Lord Baltimore.

Matched nationwide facilities

Lord Baltimore's folding box plants are located in Baltimore, Md.; Clinton, Iowa and San Leandro, Calif. They are backed by the complete resources of International Paper's mills and research centers. Our matched nationwide facilities and 11 sales offices serve these packaging fields:

Frozen Foods Pharmaceuticals
Dry Foods Beverages
Cosmetics Tobacco
Dairy Products and many others



With him, every case is special

Over a thousand companies have put the construction of their corrugated boxes in Metin Hamarat's hands.

METIN HAMARAT is manager of all Union-Camp corrugated box plants. The shipping containers these plants produce are used by virtually every manufacturing industry in the country.

There's a good reason for this wide acceptance. Metin, you see, is a perfectionist. Although making corrugated boxes is a mass production business, he refuses to compromise with quality.

Why this passion for precision when most corrugated boxes look alike? The answer lies in the myriad of unapparent features that contribute to the performance or quality in a corrugated box.

For instance, consider the combining of the sheet itself—the corrugated "sandwich". Even the quantity of adhesive used in this operation is critical. Skimp, even slightly, and the sheet might peel apart later. Use too much adhesive and you often get an unsightly washboard effect that can spoil the appearance of your printing. And, as you might expect, Metin and his pressmen take particular pride in corrugated box printing. So much so, that they frequently sign their work!

Scoring is critical, too. Just being straight isn't enough. Too deep a score, as Metin points out, weakens the board and makes it prone to tear. Too narrow, or shallow, will make the box hard to fold—cause foul-ups on the packaging production line. And, of course, costly downtime.

And, there's slotting-the knife-cuts

that form the top and bottom box flaps. Metin is meticulous here, as well. If you've ever tried to close and seal a carton whose flaps didn't meet perfectly or exactly parallel to each other, you'll understand why.

Attention to these and other key steps in the manufacture of Union-Camp corrugated boxes are the reasons they pay off in performance on your packaging line. That's why with Metin Hamarat, every case is special.

His craftsmanship manifests itself in the quality of products produced in all Union-Camp box plants. It typifies the thoroughness of Union-Camp's packaging service. This service covers corrugated box development and design. It includes specifications control, art and merchandising counsel and plant surveys of your materials handling operation.

We'll be glad to tell you more about this comprehensive corrugated service and what it could mean to you in packaging efficiency. A note on your letterhead will bring a prompt reply. Why not write us today?



Union Bag-Camp Paper Corporation 233 Broadway N.Y.7. N.Y

Plants: Savannah, Georgia · Trenton, New Jersey · Chicago, Illinola · Lakeland, Florida · Spartanburg, South Carolina · Jamestown, North Carolina Subsidiaries: Allied Container Corporation, Dedham, Massachusetta The Eastern Box Company, Baltimore, Maryland.

Congressional extension of Food & Drug legislation appears likely

With only one month to go until the March 6 "final" deadline, under present law, for compliance with the Food Additives Amendment, many important packaging materials and chemicals still have not been formally cleared by the Food & Drug Administration. But John L. Harvey, deputy commissioner, has publicly admitted that F&DA will have to ask Congress for an extension of the law. This disclosure was made by Mr. Harvey before the recent annual meeting of the Food Law Institute in Washington D. C.

Under petition, but still not classified as acceptable under either prior sanction or GRAS (generally recog-

nized as safe) categories are cellophanes, polyethylenes, adhesive formulations, many paper chemicals, waxes and rosin sizes. Now in F&DA hands are about 12 petitions for cellophanes, according to industry sources, and omnibus petitions for polyethylene, adhesives and paper chemicals have been on file with the agency since late last fall. F&DA had predicted action on these petitions before the end of 1960. Experts close to F&DA predict that no action will be taken until just before the deadline.

No formal petitions have been filed as yet for waxes and rosins, though industry scientists believe they have enough technical data to prove these important materials safe. To give more legal time for filing and approving such compounds, a Congressional extension of the Food Additives Amendment deadline will be necessary before March 6. While no time period has been set, it is believed that the extension would be for one year, but only for chemicals on which substantial test work has already been done.

A year ago, F&DA did not ask for an extension, but worked within the one-year "grace period" provided by the original law, subject to the opinion of the Secretary of Health, Education and Welfare.

Food Packaging Council's seminar discloses industry's progress

The when and how of successful packaging change dominated discussion at the Food Packaging Council's annual all-day seminar held recently in Chicago.

Speeches and questions indicated clearly the amount of management attention this subject is getting to-day. No longer a matter of whim or hunch, new-package development—among larger companies, at least—is becoming as scientifically managed a business function as is finance, sales or advertising. And it's high time, according to Dr. C. Wilson Randle of Booz, Allen &

Hamilton, business consultant firm.

Dr. Randle told the audience that packaging has been laggard in acquiring modern management methods, but improvement is now coming quickly. More and more companies are setting up packaging departments under a director independent of other company departments. And while the packaging committee is still a factor in most companies, the packaging director is acquiring more voice and stature.

The basic life cycle of a new package ranges from introduction through maturity, saturation and decline, Dr. Randle pointed out. He alerted packagers to the importance of timing in package change and the danger of using the sales curve as a guide to timing. Actually, the profitmargin curve on new packages starts down much earlier than the sales curve. Profit not sales, should be the signal for introducing new packages.

FPC's annual "Packaging Statesman of the Year" award was given to Donald R. Stokes, Agricultural Marketing Service Research Div., U. S. Dept. of Agriculture, for his work in behalf of film packaging of produce and meats.

The first free-piston aerosol container introduced for Brylcreem

[Continued from page 89]

of use—a higher percentage than is normally ejected even from metal tubes, according to research men at Beecham. At this point, pressure in the can is said to have been reduced to about 25 p.s.i.g. In two cans emptied and opened by MODERN PACKAGING editors, only slight traces of cream remained on the upper surfaces of the can interior and the piston, and none had leaked into the lower section.

The three-piece nylon valve, of simple construction, is of a type commonly used for aerosol tooth-pastes and some shaving creams. The actuator and down-curved spout are a one-piece molding of polyethylene with the largest possible bore in the dispensing spout to prevent break-down of the relatively unstable cream

emulsion before it reaches the user's hand The cap is polystyrene.

Test marketing of the new aerosol has been conducted in the Clifton area and the Midwest. National distribution was begun this month.

The company's merchandising men are convinced that a good market exists for this modern aerosol package on the basis of test-market results and previous sales of mechanical pump and jar of the same hair dressing. The feature of complete dispensing will be a strong sales point for distributors and retailers, these marketing experts feel. This point is also important in view of a new Government drive on short weight, now shaping up, with aerosols as a particular target, on the grounds that the consumer seldom obtains the full

amount of product stated on the label. This is particularly true of paste-type products.

Use of aluminum for the can, which prevents rust marks on the bathroom fixtures, is considered another sales advantage.

A check of store shelves shows that the 4.2-fl.-oz. Brylcreem aerosol is comparable in cost to the complete tube-and-carton package. It retails for 98 cents. The company's standard 3½-oz. metal tube sells for 69 cents and a large, economy 5-oz. tube is priced at 89 cents. Per-ounce retail price is, therefore, 23.3, 19.7 and 17.8 cents, respectively, without allowance for the variation in total product discharge.

Production is now by semi-automatic methods. But automatic pro-



Automatically sorts, feeds and applies up to 120 or more innerseals per minute!

automatic INNERSEALERS

VERSATILITY-Can be installed in existing lines with all standard filling machines.

FLEXIBILITY—Handles a wide variety of containers and lids-from 1/2 pint to 2 gallons. Lid range from 1/2" to 11/2" diameter.

SIMPLICITY-No change of parts required for container changeover. Universal timing unit automatically indexes your entire container range.

MAINTENANCE - No skilled help necessary for maintenance or changeover of innerseal sizes.

Descriptive literature and specifications on request.

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JIFFY PADDED SHIPPING BAG -

the all-in-one shipping unit — provides cushioning, moisture-resistance, insulation, and heavy duty protection. Saves labor, time and materials. Handy tear-tape opener for easy removal of contents.

Send for your FREE SAMPLES today!



JIFFY MANUFACTURING COMPANY

HINGES ...

for PLASTIC BOXES

press-fit assembly (Holds like a drive-screw) with or without double action

"C" Springs

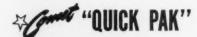


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The only fully automatic skin packaging and slitting machine. Gives you assured lower cost packaging and increased production. Automatic Blister Forming, Slitting and Unloading of Vacuum Formed Products up to $5 \, V_2^{\prime\prime\prime}$ high.

Features full versatility for captive and custom operations.



THE MODERN WAY TO BETTER SALES



VISUAL PACKAGING cuts packaging costs, keeps products clean, eliminates loss from counter handling.

Write for Packaging Bulletin MQB.



VACUUM FORMING MACHINES FOR ALL NEEDS - BLISTERS TO BOATS

Flyndustries presents

Double-wall plastic containers

by Creative Plastic Containers Culver City, Calif.

As pioneers in the plastic container field we offer you a wealth of experience in the design and production of quality plastic jars. Available in a wide variety of thermoplastic materials, several designs are available from stock tooling which can also be inexpensively adapted for the production of your custom shapes. Use our full consultation service—or we'll gladly work with your plans. Contact us today!





FLYNDUSTRIES, INC.

141 East 44th Street, New York 17, N. Y.

Tel: MU 7-4528

Also: Flyndustries-Western, 1225 So. Grand Ave., Pasadena, Calif.

duction facilities rated at 60 containers per minute are now under consideration at the Clifton plant and will include a unique new bottom gassing and plugging machine, supplied by the can manufacturer.

This unit has six in-line heads, each containing a domed platen that rises up under a can and covers the gas-filling hole. A vacuum is pulled that removes air from the interior of the can, then nitrogen is pumped in to the desired pressure. The rubber plug, which is almost twice the diameter of the aperture in the can, is fed from a roll and cut. It is then forced through a tiny orifice that is even smaller than the hole in the can. Once in place, it expands to seal the can aperture permanently.

Since each head is reported to have a 4-sec. cycle, it is theoretically possible to run 15 cans per minute per head and to increase production speed by simply adding more heads to the machine.

AMA show in April

Chicago's new Lakefront Exposition Hall will be the site of the largest packaging exposition ever held in the United States. The American Management Assn.'s 30th National Packaging Exposition, April 10-13, will occupy more than 150,000 sq. ft. (four acres) of space—12,000 sq. ft. more than the previous record high at Chicago in 1959. For the first time since 1953, the show and its companion event, the National Packaging Conference, will be held under the same roof.

Theme for the 1961 Packaging Show is "The Power of Packaging." Displays having a total worth of about \$6,000,000 will present a preview of packaging in the next quarter century.

Some 330 exhibitors have already reserved space in the Exposition Hall. This figure represents a drop from last year's 362 total, but this indicates that fewer exhibitors will occupy more space this year. The pattern of previous shows, where some former exhibitors did not renew space and some new exhibitors have come in, will probably carry through again at this year's AMA Packaging Exposition.

Heading the Exhibitors' Advisory Committee this year is John C. Clay, sales promotion manager, National Starch & Chemical Corp. See How Conapac's New

FORMSEAL

Machine Gives You Complete Integration in Plastic Packaging for All Kinds of Products



This automatic packaging machine unwinds plastic sheet from the reel, heats it, forms a container and fills it by means of a separate filling unit or manually, closes the pack and trims it from the web. All these functions are synchronized, and take place within the machine. The shape of the container can be chosen to suit each individual product, and the filling method can be adapted to liquids, pastes, powders or solid articles. The Formseal produces up to 20,000 units per hour depending on product and material.

OTHER MACHINES AVAILABLE FROM CONAPAC:

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Thermoforming equipment

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Unit, strip and gas packaging machines

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Rotary turret injection molding machines

CONAPAC CORPORATION

Division of Roto-American Corp. 120 East 13th Street + New York 3 SPring 7-6150

Metal can prices rise

An increase of 2% to 2½% in the price of all metal containers has been announced by the major can manufacturers. The increase, which went into effect on Jan. 1, is attributed to increased labor and production costs. Under a new labor contract, workers were awarded a wage increase, effective Oct. 1, 1960, similar to the one which went into effect recently for basic steel.

New prices apply equally to aluminum and tinplate, which forestalls the possibility that aluminum producers might gain a wider competitive price edge over the producers of tinplate.

Stronger polystyrene

[Continued from page 120]

Physical tests, however, can be designed to measure failure of a specimen along its line of least strength. If, for example, a force is exerted at a mid-point of an injection-molded sheet of polystyrene and the force is gradually increased, the specimen will fail by cracking or splitting along the line of least strength. All else being equal, the material having the lowest degree of orientation will exhibit the greatest strength.

One such test is the ball-drop method. Injection-molded, medium-impact polystyrene specimens (in this case, containers 0.035-in. thick) are first conditioned for 2 hrs. at any desired test temperature. A steel ball weighing 21.7 gms. is then dropped from increasing heights upon the thin, molded specimen, which is supported only at the edges, until fracture occurs. Such a test (Figure 1) clearly demonstrates the unusual properties of the new low-orientation material, as shown in Table II.

With a strength of three to more than four times that shown by conventional medium-impact polystyrene, it is evident that TMD-9020 in the form of injection-molded thin-walled containers shows a notable lack of orientation. Even at the lowest temperature tested, minus 20 deg. F., the new material still possesses more than twice the strength of the conventional product measured at room temperature.

Other tests also demonstrate the difference in degree of orientation





SHIPPING DAMAGE?



Reduce it and cut packaging costs at the same time

Test your packages before shipping with L.A.B. Transportation Simulators

Testing packages in your own plant cuts shipping damage to a minimum and can often save thousands of dollars by revealing overpackaging. Eliminates time consuming test shipping. Detects unsuspected weaknesses in product as well as packaging.



WRITE for new catalog of L.A.B. Transportation Simulators and Package Testers showing complete line of vibration testers, conbur (incline-impact) testers, compression testers, drop testers, quick release hooks.

L.A.B. Corporation, Skaneateles 9, N. Y.



between the new and conventional medium-impact polystyrenes. Specimens similar to those used in the ball-drop test are conditioned for 24 hrs. at 60 deg. F. and supported in the same fashion for testing. Instead of the quick impact of a dropped ball, the slowly increasing pressure of a ram having a rounded head with a diameter of 0.75 in. is substituted. This ram is pushed downward at the rate of 1 in. per minute upon the center of the specimen until fracture occurs. Results of these tests are given in Table III.

While the ram test demonstrates less difference between the two materials than the ball-drop method, the load required to cause failure of the TMD-9020 specimen is still greater than two to one over that causing the other specimen to fail.

ost

es

Practical application of the new low-orientation polystyrene lies in the areas of thin-wall and long-flow parts. In such parts, TMD-9020 provides the toughness and flexibility of materials with much higher impact ratings, but in the cost range of medium-impact compounds. TMD-9020 thus offers a combination of quality and economy that cannot be matched by conventional medium-impact polystyrenes. Flow characteristics of the new material are unusually good and very fast machine cycles are thus possible.

A major use is expected to develop for frozen foods, where low-temperature toughness is mandatory. Breakage of containers made of the low-orientation product is substantially lower than that of conventional materials at sub-zero temperatures.

TMD-9020 does not exhibit unusual properties when fabricated in thick, short-flow parts. In such cases, orientation in any compound is at a minimum and no particular advantage accrues from the use of a low-orientation material. If, however, any portion of the molded item is in the form of a thin section, the special benefits of the new product will be evident in these areas and there is, of course, no loss of normal impact properties in the areas which have thicker walls.

The new technique for producing polystyrene with low-orientation properties is being applied to products in other impact categories and a series of these special compounds is expected to be commercially available in the near future.



Plastic "Flip Caps" give the new 1961 look to both "F" and "I" type cans. Consolidated has perfected the dependable, fully automatic method for applying these new plastic closures which replace the soldered screw-neck nozzles which have been in use for over 25 years.

The new D8-FS Consolidated Capper is available in models with 2 to 8 spindles and with capacities from 40 to 250 containers per minute. The plastic fitments with captive plastic caps are fed from a hopper and inserted by straight down pressure rather than rotary screw motion previously used on metal screw caps. Caps are oriented with hinge strap parallel to length of can. Cost-consuming soldering is eliminated by the neckless can — your packages are up-dated for increased consumer appeal. Consumers prefer this type cap because of convenience of handling. Both quart and pint sizes can be handled with equal ease.

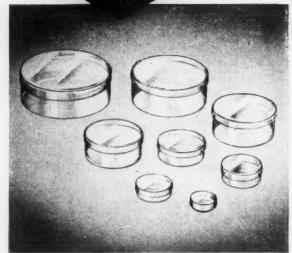


Consolidated D6-F Capper in use at S. C. Johnson & Co. applying plastic screw-type closures with captive caps to plastic containers. The new design, adjustable tension grips hold plastic containers firmly without collapsing them. Capacity 120 containers per minute.

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New day in hardware

[Continued from page 87]

is introducing the shears blister packed on a colorful card showing what the product does and listing various flower arrangements.

Wiss' packaging thinking is simple. Garden shears have never done well in hardware stores because they don't display well. Yet they are a logical big-volume hardware item, since 95% of stores have a lawn and garden department. Wiss realizes that the blister pack is not a good gift package and that some of its department-store business may suffer. But the company is willing to test its faith in the hardware-store sales potential of the new package.

Another objective relatively new to hardware packaging is the effort to create a corporate image through packaging. This is a long-established practice with most big-line food and cosmetic packagers. For hardware, however, it is new and significant. Until recently even the biggest hardware producers packaged their products in a wide range of materials and were careless about standardization of colors, logotypes and other corporate symbols. Today the larger packagers are working hard to give their packages family resemblance.

However, NRHA and others close to the hardware field are just a bit alarmed at a tendency toward "too much image and too little customer help." The brand name always appears, as does a very general item description such as "door hinge." In some cases, however, the customer is left to judge essential dimensions for himself. Women hardware shoppers especially need more help.

Convenience sells the hardwarestore customer just as it does everywhere else. Newly added convenience packaging features are now so numerous that it's possible only to highspot a few of them here.

- Speco offers a choice of five package sizes, ranging from 5 to 100 lbs., of its new Ice Rem Super ice melter. The 5-lb. and 10-lb. sizes are newly repacked in easy-to-carry polyethylene bags, printed in three colors with use instructions and selling copy. The bags are reclosable. The 25-lb. size is packaged in a corrugated box with carrying handle, scaled to fit the trunk of a car.
- Sargent has reduced packaging costs while helping the customer by

printing right on the box flap the template needed to install its doorknobs. It can be torn off for use.

- Fuller Tool is now packaging its screwdrivers and pliers in blisters which slide on and off a backing card and may be used indefinitely for storage of the tools.
- DeMert & Dougherty have an aerosol spray gun with propellant packaged in one can and attached to an empty container, into which the customer places his own paint. "Make your own aerosol," urges copy on the package.

All these convenience packaging angles—and many others—are cutting retailer costs and making the hardware store more exciting.

Although not obvious to the customer, a swing to decimal packaging is gaining momentum and promises to save time and money for manufacturer, wholesaler and retailer. This is, simply, the bulk packaging of single units by 5s, 10s and 100s rather than the long-established half dozen, dozen or gross. It allows faster stock calculations, fewer mistakes in order placing and in order filling, and many other benefits.

Old business methods die hard and decimal packaging is by no means the norm as yet. But such trail-blazing packagers as Amerock, Black & Decker, Stanley, Wiss and others have already switched and many others report they are considering the change.

Another development to watch, although not yet a trend, is the introduction of specially packaged lines for hardware stores only.

Most packagers who sell their merchandise to many different types of outlets, including supermarkets, have the same line for all. Hardware stores operate on a lower volume but higher mark-up than do the supermarkets and so must charge higher prices for most items. Customers who notice this may be indignant.

Burgess Cellulose has recently repackaged its entire sponge line to divorce its supermarket and hardware lines. The supermarket line continues to be called "Big B" and hardware stores are now offered "Brawny," a brand guaranteed to be sold nowhere else. While the sponges are identical, the packaging



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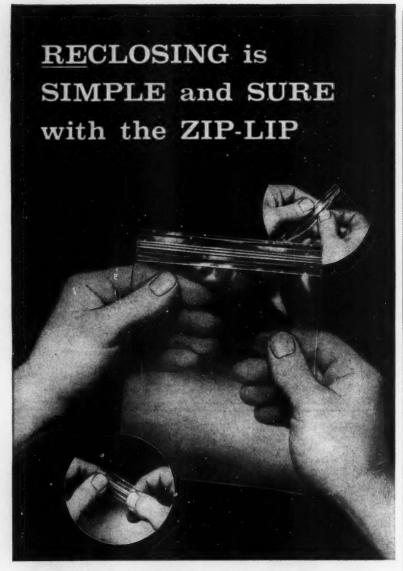
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prevents conflict between the two types of outlets.

Until recently most hardware packagers assigned the packaging function to the sales-promotion manager, even though he might have only a token knowledge of packaging materials and methods. In their replies to Modern Packaging's survey, many of these sales-promotion or advertising managers were frank to admit their packaging frailities. Merchandising aspects of the package had been paramount, while durability was sacrificed.

Dealer complaints and manufacturer enlightenment are gradually doing away with them. Some companies are adding to their staff packaging engineers or packaging co-ordinators for the first time. In others, where the sales-promotion manager remains the package decision maker, he is trying to expand his packaging knowledge. Suppliers are being consulted more judiciously. Hardware packagers today know they must successfully combine product protection with merchandising appeal, yet keep costs in line.

Several excellent sources of advice and counsel are available today to the hardware manufacturer who wishes to upgrade his packaging. Two of the best are the Hardware Packaging Committee of the
Packaging Institute and the National Retail Hardware Assn. At its
Indianapolis headquarters NRHA
maintains a complete model hardware store where packaging is spotlighted. Manufacturers are encouraged to consult NRHA whenever a
packaging change is contemplated.
Many mistakes can be avoided.

It is impossible to generalize on what constitutes a good hardware package because so much depends on the kind of product, price, turnover and other merchandising considerations. This is why NRHA urges individual consultation. However, a few factors are constant:

1. Adaptability. All packages should be adaptable to shelf, wall or bin display. While a package may be most suited to binning, it should still have some sort of hang-up device for retailers who prefer it. The hang-up hole should accommodate both double- and single-prong hooks.

2. Suitability. The size and layout of standard hardware fixtures must be considered. These include gondolas and step-up fixtures as well as

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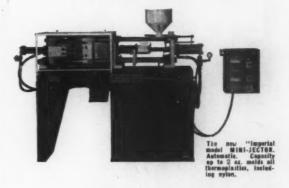
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flat-top counters. NRHA can supply the specific measurements.

3. Pricing. More than three-quarters of NRHA member retailers prefer pre-pricing on packages. This presents a hardship to wholesalers, however, because of the work involved when prices change. A suggested compromise is "price-prepared" packages-blank price spots on the packages plus a strip of pressure-sensitive labels with the price imprinted. These are quick and easy for the retailer to apply, simple for the wholesaler to replace.

4. Copy. The package must clearly indicate what the item is, suggest several possible uses and give complete instructions for use or application. If the product itself is not visible, a good illustration of the item is imperative.

These are the basics. Hardware packages are busily seeking the small refinements which can give their offerings extra sales zip without a disastrous price increase. As the tempo of the competition increases, even packagers with unlimited budgets may learn a lot. .

The present status of food aerosols

[Continued from page 126]

host of other convenience foods, many providing perhaps more obvious advantages to the consumer. These newer food aerosols have not had the same full appeal and obvious time- and irritation-saving value as whipped cream and toppings. While it is true that many of these aerosols, such as syrup, dispense the product in a more convenient and less messy form than older packaging methods, many of us feel that they have not realized the full potential of pressure packaging. It may well be that the food manufacturer and the public expect more from aerosols than their "self-dispensing" feature.

Should the economic growth of our country continue, American housewives, many also busy as wage earners, will demand even more time-saving convenience foods even if they do add to food budgets. To compete for the convenience-food dollar, aerosol-food manufacturers will have to show greater confidence in promoting more-sophisticated food products, such as: liquid drink syrups which dissolve instantly on dispensing without hand stirring, aerated salad dressings which decorate and blend smoothly with fruits and vegetables, light and fluffy spreads which are applied evenly and quickly to bread, crackers or pancakes. Not to be overlooked is a pressurized form of marshmallow topping, fully aerated, to replace the jar pack, which is difficult to spoon out and apply. Such products, in addition to being "pushbutton" dispensed, provide convenience plus for the user and may more readily find consumer acceptance.

If during the past several years food aerosols have been slow in securing their full share of the shopper's "convenience" dollars, it is only because it has taken time for the food manufacturer to assimilate the new techniques involved, to originate more sophisticated and imaginative food forms and to overcome some of the technical problems involved in food reformulation.

With developments now under way, more successful food aerosols will undoubtedly appear in the shopper's market basket in greater volume in the near future.

The '60s should see a more rapid growth of food aerosols than has occurred in the past decade.

References

- 1. Graham, Earl, "Packaging Whipping Cream in Pressurized Containers, Food Tech., Vol. 4, Nov. 6, 1950.
- 2. U. S. Interstate Commerce Commission, "Freight Tariff 10," Assn. of American Railroads, Bureau of Explosives, New York.
- 3. "Pre-Marketing Check List for Pressurized Food Products," Chemical Specialties Mfrs. Assn., Inc., 50 E. 41 St., New York 17.
- 4. Riester, D. W., Warner, R. C., and Hoffman, H. T., Jr., "Packaging Requirements for Pressure Propelled Foods, Food Tech., Vol. 12, No. 7, July.
- 5. Giggard, E. D., and Gottshall, P. B., "Heat Preservation of Pressure Dispensed Food Products," Food Tech., Vol. 12, No. 7, July, 1958.
- 6. Hays, G. L., Burroughs, J. D., and Warner, R. C., "Microbiological Aspects of Pressure Packaged Foods II-The Effect of Packaging Procedures," Food Tech., Vol. 13, No. 10, Oct., 1959.
- 7. Wheaton, E., and Hardy, Paul W.,

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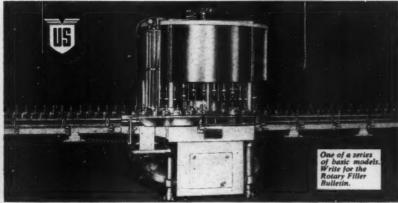


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Packaged Foods III" and "The Effect of Packaging Procedures," Food Tech., Vol. 13, No. 10, Oct., 1959, 8. Hays, G. L., and Reister, D. W.,

"Microbiological Aspects of Pressurized Foods," Proc. CSMA, 44th Mid-Year

"Microbiological Aspects of Pressure

Meeting, May, 1958.

9. Blodgett, F. W., and Webster, R. C., "Freon-C318 Propellant for Aerosol Food Products," Proc. CSMA, 45th Mid-Year Meeting, May, 1959.

10. Graham, W. E., "Food Aerosols," Proc. CSMA, 42nd Annual Meeting, Dec., 1955.

11. Klitsch, G. A., and Graham, W. E., Non-Aerated Aerosols," Proc. CSMA, 43rd Mid-Year Meeting, May, 1957.

12. Anon., "New Piston Aerosol Container," Aerosol Age, Feb., 1959, pp. 20-

13. "How American Buying Habits Change," U. S. Dept. of Labor, U. S. Govt. Printing Office, Washington 25,

14. Anon., "Convenience Items Key to Added Profits," Food Field Reporter, March 14, 1960. •

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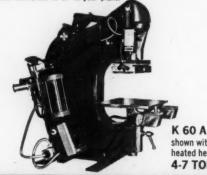
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[Continued from page 105]

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5-page illustrated folder describes line of automatic wrapping machines that wrap a wide variety of articles of rectangular or irregular shapes—such a cakes, sweet goods, pies, etc. Also describes automatic roll-type labeler. Advantages, applications, other data. Oliver Machinery Co. (187-8)

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square to 5K-in. wide to 6 in. high. Advantages, applications, other data. Biner-Ellison Machinery Co. (174-B)

HIGH PRESSURE EXTRUDERS. Illustrated folder describes induction heated, controlled high pressure extruders that offer uniform induction heat, fast heating, push-button pressure control. Advantages, applications, other data. Blaw-Knox, Asma-Standard Div. (175-B)

CAN MAKING MACHINERY. Series of technical bulletins describes complete line of cam making machinery, including slitters, body makers, flangers, beaders, air testers, scroll shears, strip feed presses, and curiers. Advantages, specifications, other data. Baldwin-Lima-Hamilton Corp. (176-B)

HIGH SPEED PACKACING. 6-page illustrated folder describes equipment that offers high speed, direct-sealing, electrically-driven rolls that perform three functions simultaneously (forming, filling, sealing). Information, specifications, other data. The Bell Machine Co. (177-2)

STAPLING TOOLS. 8-page illustrated booklet describes line of stapling tools for bottom scaling of paperboard shipping containers, top scaling of corrugated and solid fiber boxes, assembling multi-piece corrugated and solid fiber containers, etc. Full information, specifications, applications. Bostitch. (178-B)

CASE FORMER. Illustrated bulletin and data sheets describe automatic case former and positioner that increases production and reduces labor costs on packaging lines. Offers high speed, reliability, adaptability, etc. Complete information, specifications, other technical data. Caral Packaging Machinery, Inc. (178-5)

FIBRE CANS. 32-page illustrated brochure describes complete line of fibre cans made in square, round, oblong and oval shapes, with both metal and paper ends. Full information, applications, other data. Container Corporation of America, Sefton Fibre Can Co., Div. (180-B)

AUTOMATIC SPRAY MACHINE. Illustrated data sheet describes single vertical flature automatic spray machine that offers adjustable length and speed of painting stroke. Automatic air illusing, cylinder and air valve lubrication, water trap ejector. Handy reference chart lists spray painting troubles and remedies. Conforming Matrix Corp. (181-B)

TABLETING EQUIPMENT. 8-page illustrated folder describes complete line of machinery for every tableting operation. For pharmaceutical, chemical, catalyst, food, etc. Full information, specifications, other data. Arthur Colton Ca. (189-8)

MACHINE TOOL LIMIT SWITCHES, 4-page illustrated bulletin describes heavy duty and precision tool limit switches that offer soundest electrical circuit, longest contact life, are water, dust tight, etc. Full information, specifications. R. B. Denison Mfg. Co. (183-8)

EXTRUSIONS. 8-page illustrated folder describes complete line of tubing, pipe, rod, and strip extrusions. Includes information on machining and cutting, saving, drilling, reaming, etc. Full information, stock sizes, technical data. The Danielson Mfg. Co. (184-8)

SEALER-LABELER. Illustrated catalog page describes power driven scales-labeler that labels and scale cellophane, polyethylene, and many other types of bags . . . with accuracy, precision and positive operation. Full information, specifications, other data. Doughboy Industries, Inc., Mechanical Div. (185-8)

HYDRAULIC PRESSES. 8-page illustrated booklet describes complete line of hydraulic presses for the rubber, plastics, fibregiass industries. Includes compression molding, transfer molding, laminating, and down-acting presses. Full information, complete specifications, other data. Eric Engine & Mfg. Co. (186-8)

CORRUGATED BOXES. 30-page filmitrated book is factual guide on how to pack in corrugated boxes. Covers regular slotted boxes; overlap, full flap, center special slotted boxes, etc. Information on special box designs. West Virginia Pulo and Paper, Hinde & Dauch Div. (187-3)

CLASS FIBER. 4-page illustrated beliefth provides technical data on properties of a glass fiber designed for use as package cushioning and for vibration damping, machine base mounting, acceptical, other applications. Pall Corp.

(188-8)

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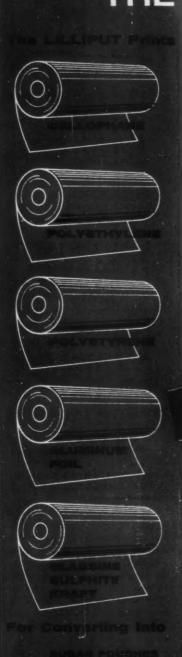
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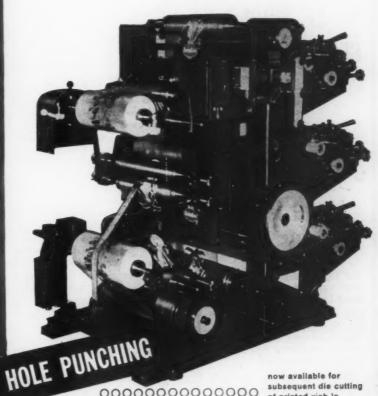
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A HIGHLY VERSATILE FLEXOGRAPHIC PRINTER FOR NARROW WIDTH MATERIALS

Narrow-width materials are in great demand for numberless packaging items. For outstanding multicolor printing on these narrow webs, the LILLIPUT provides proven, dependable operation, quality printing and good register.

This highly versatile press prints equally well on a large variety of materials and can be quickly changed from job to job. Above all, it is attractively priced.

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trade your old, time-worn shipping tags and labels for National's dynamic new advertising tags. They do so much . . . and cost so little.



Bananas in corrugated

Latest development in the shipping of bananas is the use of specially designed corrugated boxes in which the fruit is packed at the plantation level immediately after cooling.

The new system, initiated by Standard Fruit & Steamship Co. after years of research, reportedly eliminates 17 of the 21 warehouse steps normally required.

After the freshly picked green stems of bananas are run through a cold-water bath to reduce field heat, hands and clusters are placed in the corrugated boxes on plantations in Central America. From then on, they are untouched until they reach the retailer. Each container is loaded to a uniform 40-lb. net weight of totally marketable fruit, adapted to mechanized handling all the way, says Standard Fruit.

The boxed bananas are worth the added cost, say warehouse operators, because there is no waste; labor and space are saved all along the line—unloading, cutting, packing and not hauling excess poundage. In addition, the cost of salvaging



Uniform quality is assured by bananas plantation packed in corrugated. Boxes eliminate 17 of 21 warehouse steps.

the formerly used wooden boxes has been completely eliminated.

Reaction to test shipments, begun in June, 1959, were so successful that Standard is now shipping 10,000 boxes a week of top-quality hands and clusters of Cabana bananas. When all its grower-level plants are in operation, the company expects to ship 10 million boxes a year.

SUPPLIES AND SERVICES: Corrugated containers by Continental Can's Fibre Drum & Corrugated Box Div., 530 Fifth Ave., New York 36.

British Starpacks 1960 competition awards



British Starpacks 1960 winners were polyethylene bottle (upper) and fibre-steel export drum (lower).



Two Supreme Award winners were singled out of 171 entries in Starpacks 1960, the first comprehensive British national packaging competition. Six entries received gold stars, six were awarded silver stars and 11 won bronze stars from the Institute of Packaging.

The retail consumer package receiving the highest marks and therefore one of the Supreme Awards was a lithographed low-density white polyethylene bottle for Silvrikin Laboratories' Silvrikin organic hair food. (Container by Metal Box Co.; carton designed by THM Partners and made by Alf Cooke, Ltd.)

Highest rating among shipping containers and the other Supreme Award went to a fibre and steel drum for export to Australia of Gillette Industries' razor-blade dispensers. The product is shipped in tight coils employing strips of kraft paper and wound onto a center ring. The 3-ft.-high fibre drum has a water-vapor barrier of foil laminated with bitumen buried in side wall. Inner wall is polyethylene coated. (Drum by Bowater Packaging.)





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HAT's just about how long it takes to read Arabol's special 8-page booklet . . . How to buy adhesives for better adhesion. It contains a list of 23 basic questions which will help you determine the qualities and characteristics you need in your adhesive re-quirements. This guidance questionnaire probably can save you time and money in your manufacturing, packaging or casesealing operations.

We would like to send this booklet to you. It's free and there's no obligation. Mail your request on your letterhead to: Dept. MP— ARABOL MFG. CO.—110 E. 42nd Street, New York 17, N. Y.

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Cookies, candy, chewing gum . . . a Package DF-1 helps cut your wrapping cost. If you're looking for high speeds and automatic operation, fast size changes and a neat final product, this is your machine.

The DF-1 makes another saving possible, too, for it is the only machine to wrap a 2 on 3 vending machine pack without a bottom card. You can do up to 150 packages a minute, in printed and registered cellophane with an easy opening tape. You get a tight, attractive wrap with a positive bottom seal along its entire length. Size changes take only minutes, and gentle product handling reduces breakage.

A Package DF-1 feeds automatically from one or two Quality sandwich makers, or directly from a candy line, for high-speed operation. Ask your Package representative to show you the many cost-cutting advantages the DF-1 will bring to your operation.



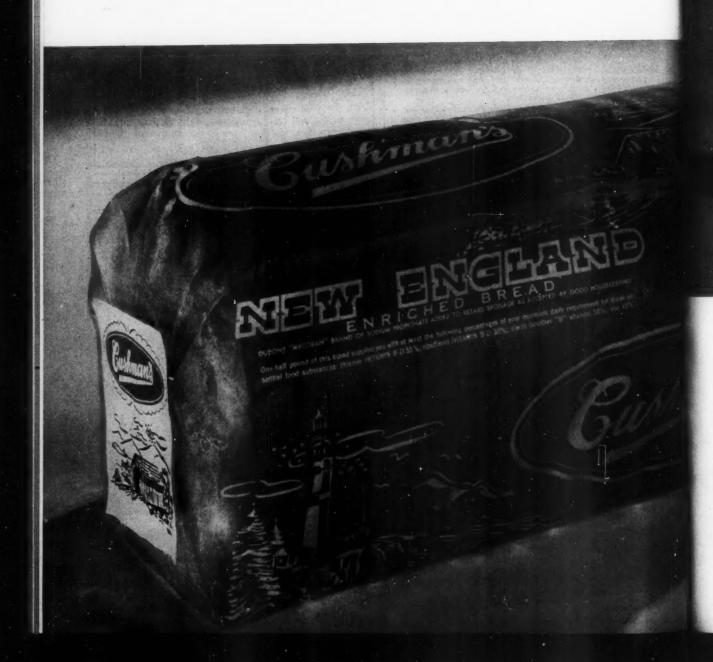
PACKAGE MACHINERY COMPANY,

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Take blow-molded high-density polyethylene bottles for liquid detergents, for example. Or automatically overwrapped bread in polyethylene film.

These new plastic packages tell success stories familiar to grocery product sales managers everywhere. And, they're only two of a host of packages made from BAKELITE Brand plastics that have helped increase sales appeal and improve product protection—at lower cost. Plastics that include not only polyethylene for film, coatings, and molded and extruded containers, but styrenes, vinyls and phenolics, for every familiar packaging form. These BAKELITE Brand plastics offer you chemical, physical, merchandising, and economic qualities

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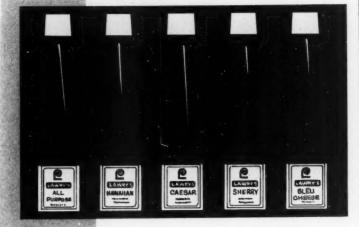


Danish Modern



for crisp greens





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Lawry's new "dress" for its tasty salad dressings is easy to spot on the supermarket shelf, goes proudly right to the table.

All five members of the family stand together in just 8½ inches of shelf space.

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Speed for big bottles

[Continued from page 97]

this filler is overhead, as are the gear box, variable-speed pulleys and the drive motor—well out of the way of the danger of splashing product and broken containers.

This type of arrangement is said not only to minimize maintenance requirements, but also to enable the lower part of the turntable to be washed or steamed without endangering the drive mechanisms of the unit in any manner.

Change-over between container sizes is quick and easy. The turntable star is mounted on a stainlesssteel shaft, held at the top by a swiveling, self-aligning pillow-block bearing. At the bottom, the hub of the star rides in a nylon cup bearing. To switch this component to a different size, one of two set screws on the hub is loosened, the star is lifted from the nylon bearing, swung out and dropped from the shaft. The stars need not be timed after each change-over, since the second set screw, adjusted upon machine installation, is thereafter left unchanged and automatically positions the star correctly with reference to a single spline on the drive shaft.

The guide rails are held in place with only three studs and can be removed quickly and replaced with rails of a different size and spacing in a matter of minutes. The only other part requiring change is a conventional star wheel on the exit of the filler. This, too, is changed with each size and has the double setserce feature of the main filling table star.

A significant point about this filler, according to the manufacturer, is that its full capacity has never been determined. By boosting the vacuum, much higher rates of output undoubtedly could be obtained. However, because of a limitation in other packaging-line equipment, no long runs have been possible at these higher speeds to determine what capacity is possible or what unknown limiting factors might be present in the machine design.

Thus, it appears that this filler has created both a new potential for the high-speed packaging of large, rigid containers and a challenge to manufacturers of labeling and casing equipment to step up to higher production speeds.

FMC's HUDSON SHARP

Single Impression Cylinder -Flexo-Press Assures

Simplified Operation... Precision Color Printing

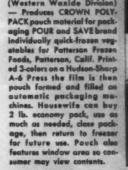
on papers, films and foils for many important producers

Reproducing packaging designs in line, halftone or process color with accurate registration is a specialty of these Hudson Sharp presses. The finest in the industry, they come in standard sizes with two to six color stations . . . print widths 20'' to 60'' and with repeats 12''

to 36". Positive tension controls, maximum surface drying between colors, plus Hudson Sharp's unique drying tunnel before rewinding literally guarantee sharp, precise, locked-in color registration on all types of films, foils and other flexible materials at exceptionally high running speed! In addition, the rigid support of the web on these presses reduces material waste to less than ½ of 1% on a full run. These and the many other important features listed below are the ones that count in helping major suppliers to the packaging industry attain top production of the finest print quality. Investigate . . . You'll agree it's wise to learn now how Hudson Sharp flexo-presses can improve your printing quality . . . increase your productivity . . . and reduce your costs.



- High speed printing with a minimum of material wastel
- Standard presses with two to six color stations
- Print widths 20" to 60" repeats 12" to 36"
- Agitated splash-proof ink fountains
- Hydraulic color throw-outs
- Prints 1/2 mil. film to heavy-weight papers
- Anilox type transfer rolls
- Automatic web tension controls
- Accurate print register constant print design repeats
- Handles unevenly wound rolls or webs of varying caliper
- High speed surface dryers between colors and before rewind
- Flying splice unwind and rewind (optional)
- Vibrationless, heavy-duty cast iron construction
- Anti-friction bearings thru-out
- Easiest of all presses to operate holds positive register through all speed changes



Crown-Zellerbach



Lassiter (Division of Riogal Paper Corp.) — Designers and manufacturers of food and textile packaging, use a similar A-6 Hadson Sharp press as pictured for printing colorful consumer packages for Cannon Mills, Inc. — leading producer of sheets, pillow cases, towels, bedspreads and wamen's hostery. The "Cambapun Percala" sheet packages shown is polyethylene, attractively printed in gold and black individually mith a large see-through gree for consumer inspection at retail level.



Contains complete data and specifications.
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FULLY AUTOMATIC

AUTOGLOSE Automatic Setup Box Closer

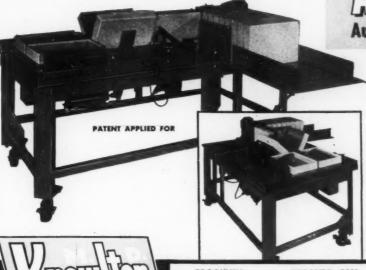
REDUCE COSTS INCREASE OUTPUT

The new Knowlton Autoclose is a fully automatic setup box closer that automatically accepts the output of bases and covers (or lids) from two Automatic Wrappers and combines them. It will close boxes as fast as they are delivered from the Wrappers.

The setup time is short, and the parts necessary to change over from the largest box to the smallest box cost very little.

The Autoclose is controlled by air valves and cylinders exclusively. The approximate 25 lbs. of air pressure which is required is controlled by a regulator provided with the machine.

Autoclose will prove itself a cost eaving addition to your Setup Box production line.

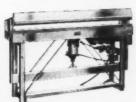


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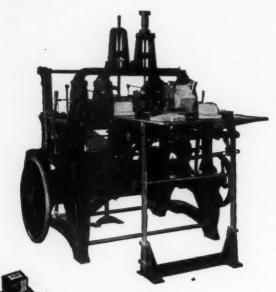
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... for the Brightwood Box Machine. If you have one box size or 100 sizes, you can make them profitably on the Brightwood. Well squared, perfectly glued boxes are formed in one operation from flat printed blanks — one-piece hinged cover, two-piece telescope or lid, trays, tapered cartons, etc. — for a multitude of uses — screws, hardware, cigarettes, bakery goods, candy, cheese, playing cards, wax paper, etc. Write **US** today and get the facts.



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Sounding Board

[Continued from page 56]

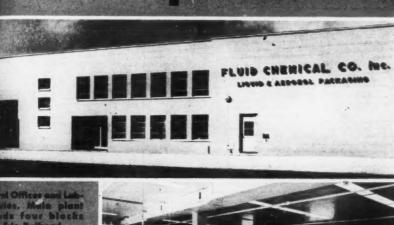
and gradually build up speed as the operators learn their respective jobs. We have used this method on many occasions and, with detailed refinements, have repeatedly brought new operators up to full speed more quickly than we had estimated.

We prefer the latter method of group training to individual training, as it would appear that the greatest deterring element in individual training is lack of confidence. In the case of group training, there appears to be a greater degree of confidence and, consequently, a more rapid achievement of the full speed.

As for all production-line personnel other than actual production operators, we do not use any completely formalized program or techniques, but rather tailor our training to the individual and the specific job being learned. Here, again, we use the age-old training steps of telling, showing, let the trainee do the job and then the follow-up. In addition, and nonetheless important, we attempt to employ some good principles of human relations, as our experience has shown that the greatest deterring factor in training production-line personnel, or any personnel for that matter, is the lack of confidence when thrown into a complicated packaging operation. More specifically, we attempt to set the trainee at ease, speaking in slow audible terms, showing enthusiasm and, above all, displaying a sincere interest in the trainee's accomplishments. We firmly believe that in addition to training individuals on specific jobs, they should be made aware of the environment, situations and physical facilities which surround them, with a very clear explanation of exactly how they, as individuals, fit into the over-all common objective of our packaging function.

We afte convinced that the most inspiring single element in training is to have the trainee know that both the trainer and supervisor are interested in what he or she is doing and how they are progressing. Without this show of interest, all of the techniques, plans, programs, etc., are merely tools for someone to do something that they would probably rather not be doing.

Practice makes perfect







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Are you the captive of your own captive filling plant? Are fixed overheads, high operating costs and fair-to-middling filling methods shrinking your profit margin?

Profitable packaging requires know-how that can be gained only by practice, and more PRACTICE. We believe we can do your filling better and more economically than you because:

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In today's highly competitive markets, the appearance and efficient functioning of the package have a powerful effect on sales. Aerosols filled with product in the FLUID plant are uniformly accurate in weights and pressures. Quality control of incoming materials and of mixing and filling operations here leave no margin for error.

Your filling operations should be our job. Send the coupon for further information regarding FLUID'S facilities for serving you.

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Machinery and **Equipment For Sale**

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Model FA, FF, FFH, FA2, FA3 and FA4
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FOR SALE—5 Color Web Rotogravure Press, Maximur, web width 21%," Runs on AC or DC current. Sheeter and rewind delivery. 2 reversible units print on either side of web. Produces excellent print quality and steady, high production. Pre-conditioner for web, Ross gas heater, Stanford precision unwind and converter included. Reply Box 203, Modern Packaging.

WOLVERINE FLEXOGRAPHIC PRESS—31" wide 4 color press. Cellophane and polyethylene. Complete with motors, controls, overhead structure oven and in between dryers. Unwinder and rewinder. Hydraulic lift motorized free wheeling. Anilox rolls. Used moderately—about 8 or 9 years old. Can be seen running. 45 plate cylinders and gears. Reply: Mason Envelope Co., Inc., 1180 Commerce Avenue, Bronx 62, New York.

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206, Modern Packaging.

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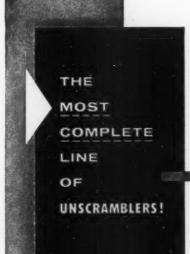
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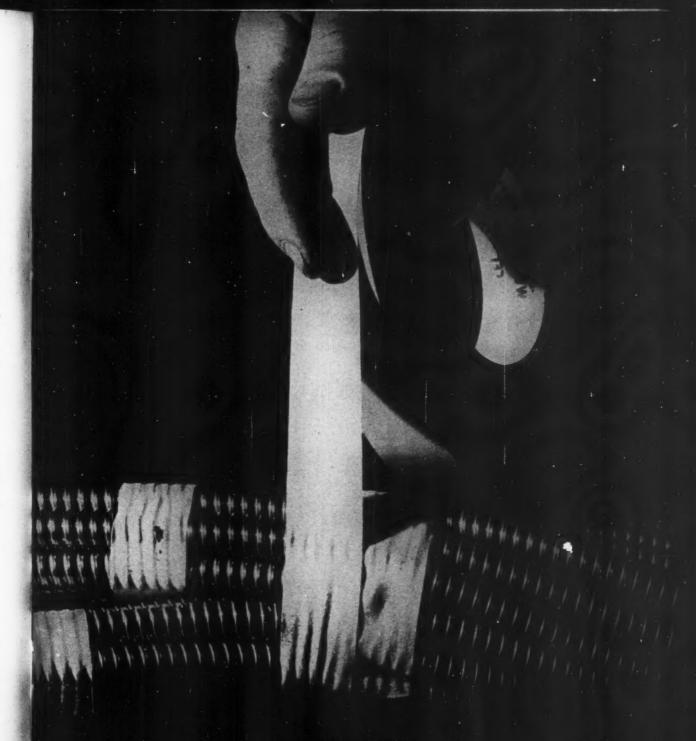
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